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ABSTRACT

This study was conducted to describe the work experience being obtained by high school students and to relate that to educational and labor market outcomes. A special emphasis of the study was to determine if school supervision or monitoring has any apparent influence on the nature or outcomes of work experience. Data for the study were obtained from the National Longitudinal Surveys of Labor Market Experience, New Youth Cohort, and from high school transcripts. The study found that about two-thirds of all students held jobs while in high school, most of which they obtained on their own. Although most of these jobs were at low skill levels--such as in-service, labor, or clerical occupations--jobs that were school supervised as well as jobs held by students with concentrated patterns of participation in vocational courses were usually at higher skill levels, especially for women. Through regression analysis, it was determined that work experience has either no effect or a slightly positive effect on grades. It was also found that there was some tendency for young people with part-time jobs in high school to have more school problems or delinquent behavior. Although work experience did not yield a consistent pattern of relationships with post-high school earnings, it did contribute to higher rates of employment for graduates. The study concluded that school supervision of work experience appears to achieve some equity for minorities and females as well as some training objectives. Recommendations were made to continue to emphasize work-study programs and for schools to use work experience to enhance students' education. (KC)

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HIGH SCHOOL WORK EXPERIENCE AND ITS EFFECTS

Morgan V. Lewis
John A. Gardner
Patricia Seitz

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FOREWORD

Major technological, political, and economic trends in the United States are influencing vocational education and moving it toward more cooperation with employers. In the coming years, increasing numbers of students are likely to receive vocational preparation in work settings under the joint supervision of their schools and their employers.

The present study was conducted to provide a description of the work experience currently being obtained by high school students and to relate that to educational and labor market outcomes. A special emphasis of this study was to determine if school supervision or monitoring has any apparent influence on the nature or outcomes of work experience.

The study was conducted using data from the National Longitudinal Surveys of Labor Market Experience, New Youth Cohort (NLS Youth). This is a continuing study being conducted by the Center for Human Resource Research, The Ohio State University, with primary support from the U.S. Department of Labor. Under a cooperative agreement between the Center for Human Resource Research and the National Center, high school transcripts were collected and added to the NLS Youth data base. This addition permitted a more precise classification of participation in vocational courses and better estimates of the effects of this participation.

The National Center wishes to express its appreciation to Michael Borus, Director of the Center for Human Resource Research, for his cooperation in this effort, and to the Office of Vocational and Adult Education, U.S. Department of Education, for its funding of the collection of the transcripts and the analysis of the NLS Youth data.

The present study was conducted in the Evaluation and Policy Division of the National Center under the direction of N.L. McCaslin, Associate Director. The project was directed by Morgan Lewis, a psychologist, who was primarily responsible for chapters 1 and 5 of the report. Also participating in the project were John Gardner, an economist, who prepared chapter 3 and 4, and Patricia Seitz, a sociologist, who wrote chapter 2.

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Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

EXECUTIVE SUMMARY

For more than a decade, work experience for students in high school has been advocated as a means of easing the transition from education to employment. Young people have been increasing their participation in the labor force for an even longer period. Several studies have related work experience to labor market experiences after high school, but few have analyzed the nature of work experience itself. This study examined both the jobs held while in high school and the characteristics of the students who held them. The major question of the study was whether school supervision of jobs influenced the nature of work experience and its apparent educational and labor market effects.

The study used data from the National Longitudinal Surveys of Labor Market Experience New Youth Cohort (NLS Youth). A subsample was selected of 2857 respondents for whom the most accurate information was available on working in regular jobs while in high school (not summer or odd jobs). These respondents were classified into one of four work experience categories: (1) held only school-supervised jobs; (2) held only nonschool-supervised, or outside, jobs; (3) held both school-supervised and outside jobs; and (4) held no regular jobs. Additional analyses were made using information from high school transcripts on credits received for cooperative education or work-study courses.

Nature of Work Experience

About two-thirds of all students held jobs while in high school, most of which they obtained on their own. Only about 15 percent held jobs that were somehow related to their schools through programs such as cooperative education, work-study, or government programs for the disadvantaged. Individuals with certain characteristics were less likely to have held jobs. These included females, minority groups members, individuals from families of low socioeconomic status (SES), and individuals who lived in rural areas and in the South. Women who had child care responsibilities were also less likely to have held jobs. Students who had taken concentrated sequences of vocational courses were more likely to have held jobs and especially likely to have had school-related jobs.

The kinds of jobs held while in high school were predominantly at low skill levels. Half of the jobs held by men were service or laborer occupations. Two-thirds of women's jobs were in the service and clerical categories. School supervision of employment and concentrated pattern of participation in vocational courses were associated with holding jobs at higher skills level, especially for women. One-third of all school-supervised jobs were with government employers, compared to only 4 percent of nonschool-supervised jobs. Most of these government jobs, however, were in government programs for young people from economically disadvantaged families. Over half of all jobs were in trade.

On the average, students who held jobs worked about twenty hours per week. Men worked about two hours more than women, and students in school-supervised jobs worked about two hours more than those in nonsupervised jobs. The average wage for jobs held by men was $3.15 per hour and $2.97 per hour for jobs held by women. There was no difference between the hourly wage for school-supervised and nonsupervised jobs for men, but there was a twenty-seven cent difference in favor of school-supervised jobs for women.

Outcomes Associated with Work Experience

There is a fair body of evidence that work experience in high school is associated with an easier transition into regular employment after high school. Recently, some questions have been raised about potential negative consequences of part-time employment. This study examined the relationship between work experience and high school grades and involvement in school problems or delinquent behavior. Regression analyses were conducted on the net effect of work experience on grade point average (GPA) and class rank. The regression analysis controlled for background characteristics such as sex, race, family SES, and patterns of participation in vocational courses. For men, there were no significant relationships between the work experience categories and the two measures of grades. For women, there were conflicting results: work experience had a negative relationship with GPA but a positive relationship with class rank. Of the two measures, class rank is the better indicator of relative performance since it is less sensitive to differences in grading practices across schools and skewness in the distribution of grades. These findings suggest that work experience has either no effect or a slightly positive effect on grades.

There was some tendency for young people who held jobs while in high school to report more school problems, such as cutting classes or suspensions, or delinquent behavior such as shoplifting or using marijuana. Information on these activities had been collected by means of a confidential questionnaire that the respondents completed and sealed in an envelope. In many cases the differences between those who held jobs and those who did not were not large. Nevertheless, on eight separate measures of school problems and delinquent acts, those who held jobs tended to display higher levels of troublesome behavior. The work experience group most likely to report problems was made up of young people who had held both school-related jobs and jobs they had obtained on their own. No apparent explanation was evident as to why this particular group should be so much more likely to report problem behavior.

Work experience did not yield a consistent pattern of relationships with measures of post-high school earnings. For hourly earnings most of the relationships were not significant. Work experience did, however, have a strong and consistent relationship with post-high school employment. All categories of work experience were found to be associated with fewer weeks of unemployment after high school in the twelve months prior to the interviews.

Conclusions and Implications

School supervision of work experience appears to achieve some equity objectives: participation of minorities and those from disadvantaged backgrounds was higher, and the pay received by males and females in school-supervised jobs was equal. School supervision also appears to achieve some training objectives: the occupational categories and skill levels of students who held school-supervised jobs tended to be higher than those in jobs students obtained on their own. This was especially true for women because of the number who worked in school-supervised clerical jobs. Furthermore, work experience while in school tends to reduce unemployment after high school. Many of those who acquired their work experience in a school-supervised job may not have had jobs without school involvement. School involvement thus appears to make labor market experiences more similar for racial and gender groups, especially for the jobs they hold while in school.

Even if these effects are not as strong after high school, they are a step in the right direction. These results suggest that school-supervised work experience should continue to emphasize and strengthen equity objectives. Most of the young people who are employed in jobs while in high school do not need school assistance to obtain their jobs.

On the basis of these conclusions the following recommendations appear warranted:

1. Work-study programs should be continued and emphasized. Those individuals who have difficulty obtaining employment can benefit from school involvement, and it is toward them that the strongest school efforts should be directed.

2. Cooperative vocational education programs should ensure placement in jobs related to training. Coordinators for cooperative vocational programs should seek only jobs that offer opportunities for training-related employment.

3. School should assist all students who hold jobs while in high school, whether through school programs or not, to use their work experience to enhance their education. Schools should keep a regular record of work experience acquired by students and provide opportunities for individual or group counseling of problems encountered in work settings.

CHAPTER 1

INTRODUCTION

One of the main emphases in public education since the 1970s has been to enhance the relationships between education and work. The most visible reflection of this emphasis has been the career education movement. In the first half of the 1970s the leading spokesperson for career education, Sidney Marland, held the highest federal office for education, first as commissioner and later as assistant secretary for education. A survey in the mid-1970s (McLaughlin 1976) indicated that the basic approach of career education--emphasizing the relationships between education and work in all subject areas--has been accepted, if not fully implemented, by most elementary and secondary schools. The most direct way to emphasize education-work relationships is to provide work experience for students while they are still in school. Five national panels that were convened during the 1970s to examine the education of adolescents advocated less reliance on classroom instruction and more reliance on community involvement, either in a paid or voluntary work setting.* Some recommended that all classroom vocational instruction be replaced with on-the-job skill training.

Improved preparation for work, however, was not the primary basis of the proposals to increase work experience. The five panels cited were in general agreement that current practices in secondary education cause a period of enforced dependency that deprives adolescents of opportunities to assume responsibilities. Work inherently involves responsibilities and the extent to which these responsibilities are fulfilled has consequences for others as well as the workers, themselves. Work experience while in high school, therefore, is proposed as a natural antidote to overcome this enforced dependency.

The major current programs to provide school-supervised work experience are work-study and cooperative vocational programs. Although the differences between these programs in actual practice are often difficult to detect, they are different in concept. Work-study is usually designed to retain school-alienated young people by providing part-time jobs during school hours. Work-study students typically receive instruction in job search and retention skills, such as how to fill out a job application and how to get along with a supervisor. These programs usually do not attempt to teach specific occupational skills. Cooperative vocational programs, on the other hand, are intended to teach such skills by relating classroom instruction with on-the-job experience. Under the supervision of both the school and the employer, students are placed in part-time jobs that allow them to practice relevant skills and to learn new ones.

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*Panel on Youth of the President's Science Advisory Committee (1973), The National Commission on the Reform of Secondary Education(1973), National Panel on High School and Adolescent Education (1976), Carnegie Council on Policy Studies in Higher Education (1979), and National Commission on Youth (1980).

There are few reliable data on the number of students involved in these programs. Students in cooperative programs that receive some of their funding under the Vocational Education Act of 1963, as amended, are reported to the Vocational Education Data System operated by the National Center for Education Statistics (1982). During the 1979-80 school year, there were 595,633 cooperative students reported at both the secondary and postsecondary levels. These represented 10 percent of the 5,979,508 enrolled in occupationally specific programs. These are programs designed to teach occupational skills in the eleventh and twelfth grades and at the postsecondary level. There is no data system that reports the number of students in work-study programs.

The data suggest that more students obtain part-time jobs without assistance from their high schools than through school programs. A survey conducted in 1980 for the new national longitudinal study, High School and Beyond, found 63 percent of seniors held jobs outside of school (Lewin-Epstein 1981). In that same year, the Bureau of Labor Statistics reported that 44 percent of males and 41 percent of females who were sixteen and seventeen years old and enrolled in school were also active labor force participants (U.S. Department of Labor 1981). Trend data are available for young people of this age for approximately thirty years, and they indicate a steady increase in the percentage of high school students who were also working or seeking work.

Young people are obviously not waiting for the high schools to implement the increase in community involvement recommended by the national panels: High school students are seeking and obtaining jobs on their own. Most of the research evidence summarized in the literature review supports the actions of these students. With one notable exception, this research indicates that students benefit in a number of ways from working while in school. This evidence is reviewed, and then the objectives and procedures of the present study are discussed.

Recent Research on Work Experience

The most extensively studied form of work experience is the Experience-Based Career Education (EBCE) model. EBCE combines community placement in unpaid work settings with classroom instruction that is specifically related to tasks performed in the community placements. Crowe and Adams (1979) summarized most of the major evaluation studies of EBCE and concluded that it appears to contribute to students' knowledge about and ability to plan for their own careers. EBCE was also often found to contribute to self-awareness, maturity, and the ability to accept responsibility. Students, parents, and community resource people were generally very positive toward the program. These results were obtained at no cost to the students' performance in reading and computation skills. In some studies, EBCE participants actually improved their performance on achievement tests more than students in comparison groups without school-supervised work experience.

If these benefits from EBCE had any long-term effect, it would be expected that they would be revealed in post-high school follow-ups. Unfortunately a search of the ERIC data base in November 1982 yielded no such follow-up studies of EBCE.

There are post-high school follow-ups of the more traditional work-study and cooperative education programs. Nine such studies were identified for this review, and in three of these, (Stromsdorfer and Fackler 1973, Meyer and Wise 1979, and Stephenson 1981,) the researchers found earnings advantages associated with having been in work experience programs. Stephenson (1979) also has found work experience while in high school to be associated with less unemployment following graduation. Lewis et al. (1976) and Horowitz and Herrnstadt (1979) did not find these benefits but did find that former cooperative students were more likely than other vocational and general students to obtain jobs that were related to their high school training and to enter these jobs immediately after graduation. Cooperative students were also more likely to obtain on-the-job training. Other studies by Walsh and Breglio (1976), Frazier (1981), and Brailsford (1982), using outcomes such as earnings, employment, and employer evaluations, found no significant difference between work experience (primarily cooperative education) students and the groups to which they were compared.

Overall, the studies reviewed reflect a pattern of some advantages associated with work experience or no significant differences. None of the studies indicated any significant disadvantages associated with work experience while in high school. The one exception to this general pattern is a series of papers by Greenberger and Steinberg (1981) that have tended to stress the negative effects of working while in school. These papers are based on a sample of 531 tenth and eleventh grade students from Orange County, California (212 workers and 319 nonworkers). Data from these students have shown that working is associated with less school involvement and lower academic performance; increased use of alcohol, cigarettes, and marijauna; greater exposure to various forms of occupational deviance (such as giving away goods to friends or taking things for oneself); and increased cynicism about the intrinsic value of work.

Greenberger and Steinberg's findings may be at variance with conventional wisdom merely because other investigators have not made as careful an attempt to examine the negative aspects associated with working. The present study uses information from the National Longitudinal Surveys New Youth Cohort data base to examine some of these negative aspects as well as the benefits associated with employment in school-supervised jobs and in jobs young people obtain on their own. The remainder of this chapter discusses the objectives and procedures of the study.

The Present Study

The major question that the present study addressed is whether school supervision of part-time work has any influence on work experience. Do the students who work in school-supervised jobs differ from students who obtain part-time jobs on their own? Do the kinds of jobs these two groups get differ? What are the post-high school effects associated with holding school-supervised jobs, other jobs, or not working at all while in high school? These are the main questions that this report addresses. The specific objectives of the project were as follows:

1. To examine the characteristics of individuals who held jobs while in high school and the nature of jobs they held
2. To isolate the independent effect of high school work experience on subsequent employment
3. To determine if school supervision enhances the positive effects of work experience during high school

From a policy perspective, the third objective is the most significant. School supervision must add to the positive effects associated with work experience if it is to be justified. If school supervision does not contribute some extra value, education and society are better served by encouraging young people to obtain jobs on their own, thereby saving the costs of providing school supervision.

Data Analyzed

The present study examined the effects of work experience, in general, and school-supervised work experience, in particular, using data from the National Longitudinal Survey of Labor Market Experience, New Youth Cohort (NLS Youth). This section describes the overall data base, and the following section describes the selection of the subsample used in the present study. The Center for Human Resource Research (CHRR) at The Ohio State University, with support from the U.S. Departments of Labor and Defense, initiated the NLS Youth interview data collection in 1979. The National Center for Research in Vocational Education, with funding from the U.S. Department of Education, Office of Vocational and Adult Education, and under a collaborative agreement with CHRR, supplemented the NLS Youth interview data with the high school transcripts of the older members of the cohort. The merger of the two data sources was cost-effective and provided the best available information base to examine the effects of secondary vocational education on labor market experiences.

The NLS Youth is a national probability sample of 12,686 persons who were between the ages of fourteen and twenty-one when originally selected for the survey in 1978. The sample was drawn by a household screening process in three stages: a cross-sectional sample; a supplemental sample of blacks, Hispanics, and economically disadvantaged whites; and a sample of youth serving in the military. Both the cross-sectional and supplemental samples were stratified by sex in order to obtain relatively equal proportions of men and women. The military sample included an oversampling of women and was roughly composed of one-third women and two-thirds men. Weighting procedures have been developed to compensate for the oversampling of these groups.*

NLS Youth respondents were first interviewed early in 1979. The data collected in the base year included background information about the respondent's family, schooling, and work history. In addition, data on current educational and labor market activities were obtained. Follow-up interviews with NLS respondents were conducted in 1980, 1981, and 1982. (Data from the 1981 interviews had not been integrated into the National Center's data base and the 1982 data were not available for public use when the analyses in the present study were conducted.) Key questions relating to labor market and educational experiences and demographic changes (e.g., marital status) were replicated to provide continuity across the survey years.

Weights were used in the cross-tabulations but not in the regression analyses undertaken in the present report. Where sample sizes permit, analyses were done separately for men and women and for whites, blacks, and Hispanics. In most cases, the sample sizes required that blacks and Hispanics be grouped together and called "minority." This treatment combines racial and ethnic characteristics in a way that is not ideal. But social research has used this combination of characteristics frequently, and the results here suggest that, in most respects blacks and Hispanics are more like each other (in their labor market experiences) than either group is like whites.

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*For a full description of the sampling design, weighting procedures, and a descriptive analysis of the first year's data, see Borus et al., Youth Knowledge Development Report 2.7 Findings of the National Longitudinal Survey of Young Americans, 1979 (1980).

The transcript collection effort was initiated in 1980 when the high school records for persons seventeen years of age and older were obtained. Transcripts for NLS Youth respondents who were fifteen and sixteen at the time of the first interview were added to the data files in 1981. The information gathered from the transcripts included the grade level at which a course was taken, a course code, the amount of credit received, and the letter grade received for the course. These data were then used to identify the patterns of vocational participation in high school to enable a more precise examination of the effects of vocational training on the labor market experiences of youth.

Selection of Sample for Present Study

The NLS Youth data set consists of respondents who ranged in age from fourteen to twenty-two as of 1979 and are, therefore, at different stages of their life cycles. By May 1980, when the most recent interviews used in this study were conducted, there was no portion of the full sample for which a complete work history of the respondents' high school years was available. The problems that this limitation poses for analyzing high school work experience are best illustrated in figure 1. Each of the nine solid diagonal lines shows the relationship of age to calendar time for a group of respondents. The numbers at the right of each line show the sample size in the NLS Youth for that age group. For example, there are 950 respondents who were approximately fourteen years old in May 1979. Each line can be used to determine the availability of data for respondents at various ages and times. Because only the first two rounds of interviews (May 1979 and May 1980) are used here, no information on life histories after May 1980 is available. Moreover, detailed information is available only for jobs that respondents held after January 1, 1978. Respondents were asked less detailed questions, however, about any cooperative education, work-study, or government-sponsored jobs that they held before January 1, 1978. It is possible, therefore, to identify school-supervised jobs that were held before January 1, 1978, but not outside jobs that respondents left before that date. The rectangle bounded by ages fourteen to eighteen and dates of January 1978 and May 1980 show the availability by age group of information about respondents' years in high school.

The problem in drawing inferences from this sample about high school work experiences in the youth population at large

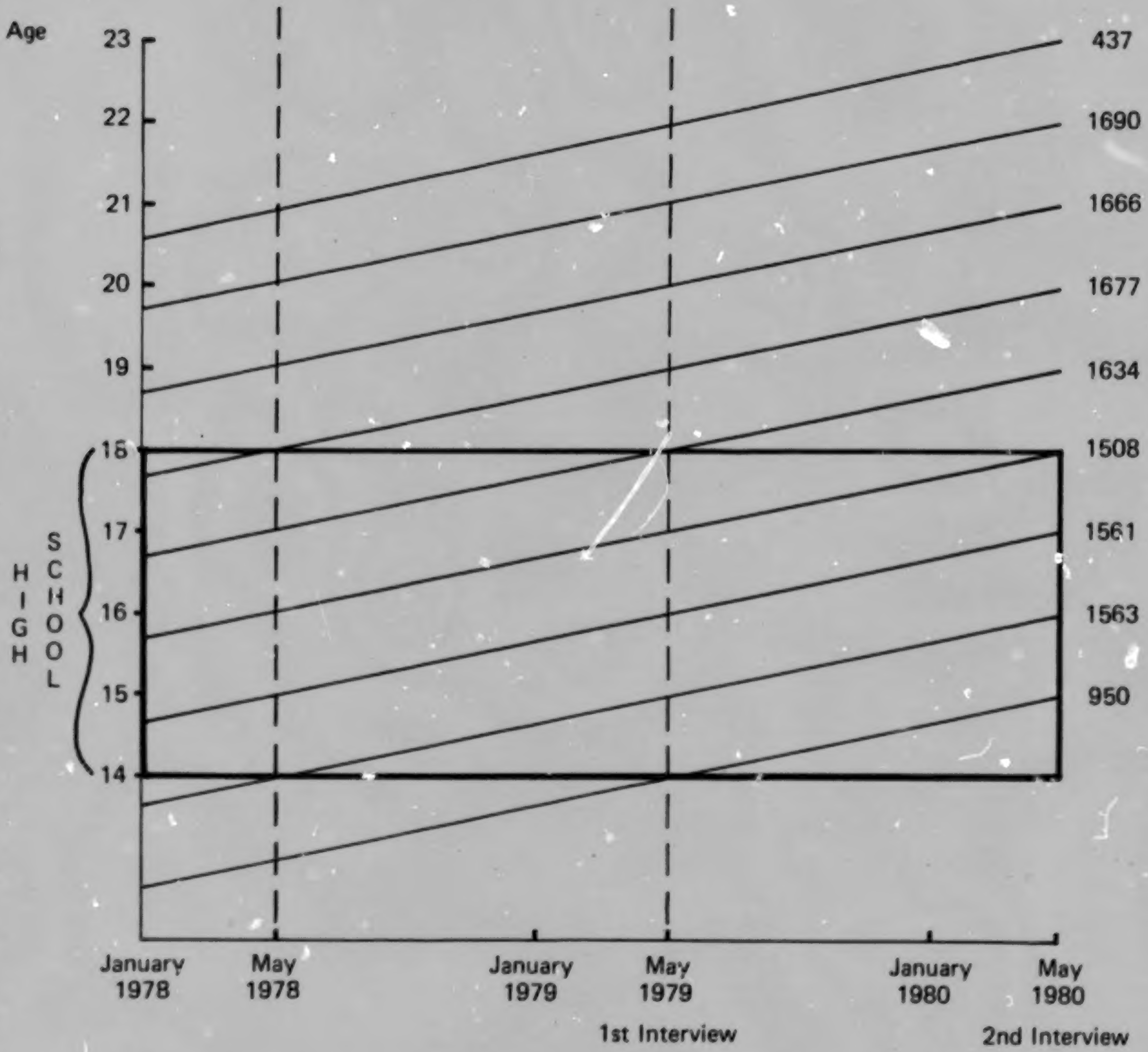

Figure 1. Data available from NLS Youth Sample through second round of interviews, May 1980

should now be clear. For at least the three oldest age groups, the frequency of holding jobs that were obtained without any school involvement is biased downward (censored to be zero). For the middle three age groups, that same frequency is again biased downward (but not restricted to zero) to the extent that students held non-school-supervised jobs in their early years of high school (before 1978). The three youngest age groups had not completed high school by May 1980. The frequency of holding any jobs while attending high school is biased downward for them to the extent that jobs are held during the junior or senior years in high school. Data from the High School and Beyond survey (Lewin-Epstein, 1981) suggest that, because seniors are much more likely than sophomores to work, the bias is more serious for the three youngest age groups than it is for the middle three age groups. Among the three middle age groups, information on some post-high school jobs is available only for the two older ages (nineteen and twenty as of May 1980). Only for those two age levels can estimates be made of the effect of high school work experience on post-high school labor market outcomes.

These limitations on data availability and the problems associated with them led the project staff to select two different subsamples of the NLS Youth to analyze. For analyses in which the respondent rather than jobs was the focus, most of the respondents came from two age groups--those who were approximately nineteen or twenty years old as of May 1980. This is the subsample for which the downward bias in estimating frequency of working is likely to be smallest. For analyses of the types of jobs held by students while in high school, all jobs reported by respondents during their period "in the rectangle" are used. Thus, any jobs reported in the interviews as held between January 1978 and May 1980 during months when the respondents were attending high school are included. This means that the three oldest age groups cannot contribute observations to this subsample, and other age groups have varying opportunities to contribute. But these limitations do not bias any inferences concerning the types of jobs held while in high school from 1978 through May 1980.

Methods of Classifying Respondents

The work experience of students was classified by two methods. The first classification method depended completely on interview information; the second method combined information from the interviews and the transcripts. The standard caution applies, of course, to extrapolating results from 1978-80 data to later years.

In both methods the jobs that respondents reported in the 1979 and 1980 interviews were classified as being held while in high school or after high school. Any job that respondents began at least one month before they last attended high school* was classified as a job held in high school. Also jobs that began between May and August and ended between June and September of the same year were summer jobs and were not classified as high school jobs for this analysis.

High school jobs were further divided into two mutually exclusive groups: school-supervised (or related) jobs and all other (nonsupervised or outside) jobs. School-supervised jobs included both those that were identified as part of a cooperative education or work-study program and those government-sponsored jobs for the disadvantaged that were explicitly identified by respondents as being part of an "in-school" program. Two-thirds of these school-supervised jobs were in the community with private business and industry. The government-sponsored jobs could be identified separately, and these represented 28 percent of all school-supervised jobs.

The first method of classifying respondents depended entirely on which kinds of high school jobs they held. Four categories of respondents were identified:

1. Those who held only school-supervised jobs
2. Those who held both supervised and outside jobs
3. Those who held only outside jobs
4. Those who held no high school jobs of either type

The second method employs the transcripts to identify participation in cooperative education or work-study programs for high school credit. Respondents with incomplete transcripts were placed in a separate category. The transcripts identify separately credits in work-study programs and in each of six areas of cooperative education. Respondents who took credits in more than one area of cooperative education were classified in that area in which they had the most credits. Respondents who had credits in both work-study and cooperative education are labeled "multiple." Respondents with full transcripts who had no credits in either work-study or cooperative education were classified, according to the first method described, as having had either non-school- supervised jobs or no jobs while in high school.

Patterns of Participation

Transcript data were used by Campbell, Orth, and Seitz (1981) to classify persons into different patterns of participation in vocational education. This method is preferred over both self-report of high school curriculum and administrator classification because it reflects the variability within the vocational education experience. In most previous studies, all students who reported that they had followed a vocational program or who were classified as vocational by school administrators were treated as a homogeneous group. Some studies have allowed for variations in vocational program area or for the difference between courses related or not related to later jobs. For the present study vocational credits, as indicated on the transcript, were used to develop indices of involvement in secondary vocational education.*

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*Either graduation date or date of dropping out.

The patterns of participation were first developed by operationalizing five descriptive concepts that reflect different aspects of vocational course-taking. Briefly, the descriptive concepts include (1) the number of credits received in vocational courses in the program area of specialization; (2) the number of program areas in which vocational courses were taken; (3) the number of years during which the specialty was pursued; (4) the number of vocational credits in the program area that were determined to be supportive of the specialty area; and (5) a scaled measure of whether the specialty was pursued in the eleventh and/or twelfth grade. A student's area of specialization was defined as the program area (e.g., distributive education, agriculture) in which at least six-tenths of the total number of vocational credits were received.

These descriptive concepts were used to construct target profiles. The target profiles represented the set of scores hypothesized as most likely to be associated with each pattern type. The transcript record was used to obtain a profile of scores for the descriptive concepts for each student. The actual case profiles were then compared to the target profiles, and assignment to a pattern was based on the Euclidean distance function.** A case was assigned to the pattern type from which it had the least distance. The five patterns were labeled Concentrator, Limited Concentrator, Concentrator/Explorer, Explorer, and Incidental/Personal.

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*Seven subject matter areas were identifed on students' transcripts as vocational. These categories were agriculture, marketing and distributive education, health occupations, occupational home economics, office occupations, technical education, and trade and industrial occupations. Techanical education was combined with trade and industrial courses, and the two are identified here as a single specialty area. A concerted effort was made to exclude from the vocational classifications such course areas as industrial arts, personal typing, and nonoccupational home economics.

**For a full description of the methodology and techniques used to construct and validate the patterns of participation variable, the reader is referred to the work by Campbell, Orth, and Seitz (1981).

Concentrators take an average of six vocational credits over a three-year period. Limited Concentrators generally take about half the number of vocational credits that Concentrators take, usually within a two-year span. The next pattern group, Concentrator/Explorer, is similar to the Limited Concentrator pattern except that the vocational course work is usually completed early in the high school years. Students classified in the Explorer pattern pursue courses in three or more program areas but do not achieve any level of specialization.* In comparison, Incidental/Personal students average less than a full credit and generally complete the work in a semester.

These patterns were used in the analyses in place of the traditional curriculum descriptors of vocational, general, and college preparatory. Also, in order to evaluate how representative the subsample of respondents with transcripts was, persons for whom transcript data were either missing or incomplete were included in the analyses. This group was labeled "Incomplete Transcript."

Organization of the Report

This report presents information on the kinds of jobs held while in high school and relates this information to educational and labor market outcomes. The primary analyses are by the categories of work experience described previously (school supervised, nonsupervised, both, and no work), controlling for the sex of the respondents. Other analyses are by patterns of participation in vocational courses. Chapter 2 focuses on the characteristics of individuals who worked while in school, Chapter 3 on the types of jobs they held, and chapter 4 on the outcomes associated with working. Chapter 5 summarizes the results in terms of their policy implications.

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*For the convenience of the remainder of this report the term "concentrator" is used in two ways. When the term is capitalized--as in Concentrator, Limited Concentrator, and Concentrator/Explorer--it refers to students who fit one specific program pattern. When the term is not capitalized, it refers to all students who fit any one of the three patterns just cited.

There are too few Explorers to draw inferences concerning their behavior. Because they are very different from students in other patterns, however, they are shown separately in most tables in order to avoid the distortions that would occur by including them in another pattern. The discussions of results that follow disregard the Explorer pattern unless otherwise noted.

A Note on Statistical Significance

Chapters 2 and 3 are primarily descriptive, and tests of statistical significance are not reported in the tables. Any differences in percentage distributions discussed in the text, however, are statistically significant at the conventional .05 level and large enough to appear to have some practical importance. For comparisons of groups with less than 200 respondents in each, practical importance generally means a difference of about 10 percentage points. For larger samples, differences in the range of 5 to 10 percentage points are usually both statistically significant and judged to be of practical importance. The regression analyses of outcomes associated with work experience presented in chapter 4 are based on the conventional ordinary least squares procedures and interpretation.

CHAPTER 2

STUDENTS WHO WORK AND THEIR EDUCATIONAL EXPERIENCES

The purpose of the analyses in this chapter is to compare the characteristics of students who held school-supervised jobs and non-school-supervised or outside jobs to students who had no jobs while in high school. Students are compared on a variety of characteristics--sex, race, socioeconomic status (SES), rural versus urban residence, geographical region of residence, and whether the respondent had a child. Several indicators of vocational participation are used to examine differences between working and nonworking students. These analyses include the patterns of participation in vocational courses, area of specialization (e.g., trade and industry), and self-report of curriculum. The chapter also includes analyses of the apparent effects of holding jobs on performance in school and the incidence of school problems and deliquent behavior.

Two sources of information were used to classify students into the work experience categories. The majority of the cross-tabulations are based on classification from the work history data obtained in the interviews. Students are categorized as (1) having held a school-related (i.e., cooperative, work-study or government-sponsored) job only; (2) having held a school-supervised and an outside job sometime in high school; (3) having held an outside job only; and (4) not holding a job while in high school. The second source of information, the transcript data, was used for a limited set of analyses. The high school records showed whether students received credit for specific cooperative education courses or work-study activities. Because the interview information does not differentiate between these two types of school-related jobs, the transcript data permit a closer examination of these different programs.

In order to accommodate the availability of the data and make inferences regarding the youth population, a subsample of respondents was selected for these analyses. The detailed work history information is time-bound; that is, respondents were first asked in 1979 about the jobs they held the previous year. If persons who had left school earlier than 1978 had been included, this might have seriously biased the results. Therefore, cases were selected for the subsample if the respondents had left school (i.e., dropped out or graduated) between April 1978 and August 1979. This narrow definition primarily includes the two classes that were graduated in 1978 and 1979, plus any students who withdrew during this period. Students who graduated and went on to college were also included in the subsample. Limiting the sample in this way permits a more accurate description of students who held jobs while in high school.

Personal Characteristics

Sex and Race

The results in table 2.1 show that approximately 70 percent of the men were employed compared to 64 percent of the women students. In addition, whites were more likely to be employed than either Hispanics or blacks. Approximately 73 percent of white men and 67 percent of white women reported holding jobs in high school, compared to 61 and 57 percent for Hispanic men and women and only about 50 percent for black youth. The overall patterns of their reports are generally consistent with the conclusions drawn from the High School and Beyond survey (Lewin-Epstein 1981).*

As expected, a majority of students were working in jobs that were not school supervised. Women, however, were somewhat more likely to work only in school-related jobs (17 percent) than men (13 percent). Among both men and women, minorities were somewhat more likely to have held some type of school-related job than whites. Hispanic men showed the highest likelihood of working in a school only or a school plus an outside job--approximately 9 percent in each category. Among women, however, blacks were slightly more likely than Hispanics and substantially more likely than whites to have only been employed in a school-supervised job. When the two categories of school-related jobs are combined, the difference in school employment between Hispanic and black women is less than 1 percentage point. The proportions of minority and white women who reported having held a school-supervised job are 20 and 16 percent, respectively. For both men and women the large percentage difference between whites and minorities in the outside job category is primarily due to the higher percentage of whites who held jobs.

Socioeconomic Status

An examination of the relationship between employment in high school and family socioeconomic status (SES) at age fourteen provides insight into the possible reasons why some students hold

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*Comparisons with the High School and Beyond study on high school work experience are somewhat limited because (1) the data collected on work experience are not retrospective, they are based on the week prior to the survey and labor force participation rates, rather than the type of work experience, were used in the analysis; and (2) analyses were conducted separately for sophomores and seniors, but it was not possible to partition the NLS Youth data in this manner.

TABLE 2.1

SEX AND RACE OF RESPONDENTS
BY WORK EXPERIENCE

PERCENTAGE DISTRIBUTION

Sex and Race	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total	(n)
Men						
Hispanic	8.9	8.9	43.6	38.7	100	(232)
Black	8.3	6.4	36.7	48.6	100	(346)
White	6.6	6.2	60.3	26.9	100	(809)
Total	6.9	6.4	56.5	30.2	100	(1387)
Women						
Hispanic	11.4	9.0	36.6	43.0	100	(223)
Black	14.5	5.2	29.2	51.2	100	(376)
White	8.4	7.8	51.2	32.6	100	(871)
Total	9.4	7.5	47.5	35.6	100	(1470)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding.

jobs and others do not (table 2.2).* Within each of the cohorts, low SES students were the least likely to report employment while in high school, compared to students from middle- and high-level SES backgrounds. Only 60 percent of the men from low SES homes were working, and just half of the women from similar backgrounds had obtained employment. There appears to be only moderate differentiation between middle and high SES students in the likelihood of being employed in high school. For middle and high SES men, 73 and 70 percent reported that they were working, and for women the figures were 67 and 70 percent, respectively. One possible explanation for these findings is that students from middle to high SES environments have greater access to the labor market through family contacts. The data suggest that the family's financial situation may not be a factor for low SES students, although other conditions that are often associated with low SES, such as lack of transportation and limited knowledge of the labor market, may prevent these students from obtaining jobs.

There are large differences in the percentages of men and women from varying SES backgrounds in school-related jobs. When the two school-supervised categories are combined, both middle and low SES men are seen as equally likely to be employed in school-supervised jobs (approximately 15 percent), but high SES men are substantially less likely to obtain such jobs (8 percent). Looking only at those employed, the percentages of low and middle SES students (both men and women), in school-supervised jobs are much higher than the percentage of high SES students in these jobs. Work-study and government-sponsored jobs are included in the school-related job category and these programs are often targeted to economically disadvantaged youth. The particular measure of SES used in this analysis does not contain a direct measure of family income and may not differentiate well between the truly disadvantaged and those of moderate means. If a more precise measure of disadvantaged status were available, the difference might be even more pronounced.

Geographic Region

Because labor market conditions differ in various regions of the country, it is important to examine the relationship between geographic residence and high school employment. One recent study has found that residence in different regions is

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*Family SES is determined by a composite measure of mother's education, father's education, father's (or mother's, if father was absent) occupational prestige, and availability of reading materials in the home.

TABLE 2.2

FAMILY SOCIOECONOMIC STATUS OF RESPONDENTS BY WORK EXPERIENCE

PERCENTAGE DISTRIBUTION

Socioeconomic Status	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total	(n)
Men						
Low	8.3	7.3	44.6	39.8	100	(434)
Middle	8.2	6.9	57.7	27.2	100	(731)
High	3.2	4.5	62.6	29.7	100	(218)
Total	6.9	6.4	56.5	30.2	100	(1393)
Women						
Low	9.6	6.2	33.2	51.0	100	(461)
Middle	10.0	9.1	48.3	32.6	100	(787)
High	7.7	5.0	57.8	29.6	100	(217)
Total	9.4	7.5	47.5	35.6	100	(1465)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding. Missing observations are excluded.

associated with higher or lower levels of high school employment (Lewin-Epstein 1981). The findings reported in table 2.3 support this general conclusion.

For both men and women, residence in the South appears to reduce the likelihood of holding jobs while in high school. This may be attributed to the higher proportion of minorities living in the South, and as the earlier discussion of racial characteristics clearly shows, minority youth, especially blacks, have a reduced likelihood of being employed while in high school.* In comparison, youth residing in the North Central states appear the most likely to be employed while in high school, followed by persons living in the West for men and in the Northeast for women. For men the regional differences in percentage of students working are approximately 16 percentage points; the largest regional difference among women is 12 percentage points.

Among women living in the West appears to be associated with a greater likelihood of being employed at some time in a school job. Of the women who worked during high school and who live in the West, approximately 38 percent held a school-related job. Comparable figures for the Northeast, North Central, and South are 19, 21, and 30 percent respectively.

Residence

The area in which a student lives, specifically in an urban versus rural setting, appears to have an impact on the opportunities high school youth have to obtain jobs. In urban areas, jobs are likely to be more plentiful and transportation may be less of a problem. It is likely that farm jobs, a typical source of employment for rural youth, are less available than they once were. Examining the results for the area of current residence (table 2.4), both men and women who live in urban areas show a somewhat greater likelihood of working than rural youth. Approximately 71 percent of urban males reported high school employment, compared to 63 percent of rural males. The comparable estimates for women are 66 and 60 percent, respectively.

Rural and urban males in nearly equal percentages held outside jobs only, but over twice as many men from urban residences held some type of school job than did their rural counterparts. This result largely stems from the decreased likelihood of rural men having only school-related jobs; only 2 percent were so classified. Among women, the pattern is reversed. Women from rural

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*Cogan (1982) has reported that as much as one-half of the decline in black teenage employment can be attributed to technological developments in agriculture that have decreased the demand for low-skilled labor.

TABLE 2.3

GEOGRAPHIC REGION OF RESPONDENTS BY WORK EXPERIENCE

PERCENTAGE DISTRIBUTION

Region	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total	(n)
Men						
North Central	6.1	7.5	64.2	22.1	100	(326)
Northeast	5.9	6.6	53.5	34.0	100	(257)
South	7.3	5.5	49.3	37.9	100	(440)
West	9.1	5.4	59.5	26.0	100	(219)
Total	6.9	6.4	56.5	30.2	100	(1242)
Women						
North Central	7.0	8.1	55.0	29.9	100	(359)
Northeast	8.9	3.6	54.6	32.9	100	(234)
South	9.8	7.5	40.5	42.3	100	(521)
West	12.8	11.5	39.4	36.4	100	(238)
Total	9.4	7.5	47.5	35.6	100	(1352)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding. Missing observations are excluded.

TABLE 2.4

RESIDENCE OF RESPONDENTS BY WORK EXPERIENCE

PERCENTAGE DISTRIBUTION

Residence	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total	(n)
Men						
Current--Urban	8	7	56	29	100	(988)
Current--Rural	2	5	56	37	100	(224)
Age 14--City	6	6	58	30	100	(1101)
Age 14--Country	11	8	48	32	100	(205)
Age 14--Farm or Ranch	6	4	60	29	100	(74)
Women						
Current--Urban	9	7	50	34	100	(1035)
Current--Rural	11	9	40	40	100	(272)
Age 14--City	10	7	48	35	100	(1151)
Age 14--Country	10	8	43	38	100	(244)
Age 14--Farm or Ranch	4	7	51	37	100	(69)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding. Missing observations are excluded.

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environments are more likely to have obtained some type of school-related employment than their urban peers. Combining the school job only and school plus outside job categories shows that 20 percent of the rural women held school-related jobs, while only 16 percent of the urban women reported similar job histories.

Data that the respondents reported concerning their area of residence at age fourteen, the age at which most young people enter high school, are also reported in table 2.4. In general, the likelihood of working in high school does not differ more than 3 percentage points among the residence categories. No appreciable differences among categories can be noted in terms of holding school jobs, except that men who reported living in the country were somewhat more likely to be employed in school jobs and women from a farm or ranch showed a lower tendency to engage in such jobs.

Children in High School

Parental responsibilities while in high school appear to have a differential effect on job holding for men and women (table 2.5). Among men, being a parent tends to enhance the likelihood of being employed, but it substantially reduces the likelihood of doing so in a school-supervised environment. Although the sample size for men with children is quite small, and subject to considerable sampling error, the data suggest that outside jobs are a more favored type of employment. Approximately 72 percent of the men with children held outside jobs, compared to 56 percent of the men without children.

In comparison, having a child while in high school appears to decrease the likelihood of working for women. Only 46 percent of the women who reported having a child were working whereas 66 percent of the women without children were employed. Having to balance school work and child care appears to affect the decision of whether to work for many women, despite the financial hardship many of them probably experience. However, compared to men, school-related employment appears to be a viable option for women with children. Although women with children were slightly less likely than women without children to have only held a school-related job, when the two categories of school jobs are combined, there is no noticeable difference between the groups.

Educational Experiences

Vocational Participation

Three indicators of vocational participation were used to describe the possible relationship between secondary curriculum

TABLE 2.5

WHETHER RESPONDENT HAD A CHILD WHILE IN HIGH SCHOOL BY WORK EXPERIENCE

PERCENTAGE DISTRIBUTION

Had a Child While in High School	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total	(n)
Men						
No	7	6	56	30	100	(1359)
Yes	2	3	72	22	100	(28)
Total	6.9	6.3	56.5	30.2	100	(1387)
Women						
No	10	7	49	34	100	(1356)
Yes	7	9	30	54	100	(114)
Total	9.4	7.5	47.5	35.6	100	(1470)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding.

and employment while in high school: the patterns of participation (which were developed from students' transcripts), self-report of curriculum, and vocational specialty (e.g., business and office).

Patterns of participation. In general, the results in table 2.6 show that increased vocational participation is associated with a higher likelihood of holding a job while in high school. Male Concentrators and Concentrator/Explorers were the most likely groups to be employed, followed by equal percentages of Limited Concentrators and nonvocational males (74 percent). Incidental/Personal participants and those for whom transcript data did not permit classification into a pattern were the male groups least likely to work.

About 70 percent of all women with vocational credits held jobs while in high school. Women with no vocational credits were the least likely to work; only one-half of these women reported holding jobs.

In terms of school-related employment the results were more predictable. Many vocational programs offer a cooperative education component, and therefore, students with increased vocational participation would be expected to work more frequently in school-related jobs. This was indeed the case, as both men and women at all levels of vocational concentration were significantly more likely to hold school-supervised jobs compared to Incidental/Personal and nonvocational youth. Less than 10 percent of the men with no vocational credits worked in school-related jobs while nearly 30 percent of the Concentrators engaged in such work. (The percentage of male and female Explorers in school jobs is also exceptionally high, 23 and 36 percent, but the small sample sizes for these groups preclude the drawing of any conclusions.)

The notable highlight in the results for the women is that Concentrator/Explorers, the lowest level among the concentrator groups, more frequently reported having only a school job than either Concentrators or Limited Concentrators. Concentrator/Explorers were almost twice as likely to hold this type of job than the estimate for the population.

Self-report of curriculum. Studies of vocational education have frequently used self-report of curriculum to classify students' secondary programs. Recent research has suggested that this measure may not be appropriate, as self-report does not always reflect actual experiences (see Campbell, Orth, and Seitz 1981 for review). This classification method may, however, provide an indication of students' orientation to their high school experiences (Grasso and Shea 1979). It also permits a cross-validation of the patterns of participation results.

TABLE 2.6

PATTERNS OF PARTICIPATION OF RESPONDENTS BY WORK EXPERIENCES

PERCENTAGE DISTRIBUTION

Pattern	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total	(n)
Men						
Concentrator	19	11	54	16	100	(81)
Limited Concentrator	11	8	55	26	100	(104)
Concentrator/Explorer	8	8	66	17	100	(60)
Explorer	2	20	61	17	100	(18)
Incidental/Personal	6	4	55	35	100	(240)
No Vocational Credits	6	3	65	26	100	(177)
Incomplete Transcript	5	7	53	34	100	(707)
Total	6.9	6.3	56.5	30.2	100	(1387)
Women						
Concentrator	12	14	44	30	100	(127)
Limited Concentrator	13	11	49	27	100	(188)
Concentrator/Explorer	18	8	46	29	100	(112)
Explorer	20	16	20	45	100	(15)
Incidental/Personal	7	6	57	29	100	(290)
No Vocational Credits	3	4	53	50	100	(95)
Incomplete Transcript	8	6	43	43	100	(643)
Total	9.4	7.5	47.5	35.6	100	(1470)

NOTE: Percentages shown in the table are weighted and may not sum 100 due to rounding.

The data in table 2.7 show that both male and female self-reported vocational students were more likely to be employed while in high school than either general or college preparatory youth. Approximately 75 percent of the vocational men and 70 percent of the vocational women reported holding jobs while in high school. Among men, general curriculum students were only slightly more likely to work than academic youth but, among women, college preparatory students were somewhat more likely to work than students in a general program.

As as was shown with the patterns classification, self-reported vocational students were much more likely to work in school-supervised jobs than their academic or general curriculum peers. Approximately 28 percent of the vocational men reported some type of school-related job, compared to 12 and 8 percent of the general and college preparatory males. The same pattern is evident among women, but the proportion of vocationally oriented women in school-related jobs is somewhat higher. Almost half (46 percent) of all vocational women who worked in high school were at one time employed in a school-supervised position.

Vocational specialty. The area of specialization is defined here as the vocational program area in which the student received at least six-tenths of his or her total vocational credits. Among men, having a distributive education* or trade and industry specialty was associated with working in high school, especially with working in a school-related job (table 2.8). Approximately 80 percent of the men in these areas were working while in high school compared to 70 percent of those in agriculture and office specialties. In addition, 23 percent of the men with a trade and industry specialty and over 45 percent of those classified as "other" specialty, worked in school-related jobs, compared to 13 percent in agriculture and 9 percent in office. For both the samples of men and women it is important to keep the limited sample sizes in mind; this factor prevents an adequate comparison between the specialty areas.

For women, with the exception of occupational home economics, no one specialty area can be said to be more or less likely than others to lead to employment while in school. But, the proportions of women in these various specialties in school-related jobs vary. Of the women with a trade and industry specialty, 22 percent had only worked in school-supervised jobs during their high school careers. But the categories of office occupations

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*The majority of men classified in the "other" specialty category were distributive education students. Those in health occupations and occupational home economics program areas were also classified as "other."

TABLE 2.7

SELF-REPORT OF CURRICULUM OF RESPONDENTS BY WORK EXPERIENCE

PERCENTAGE DISTRIBUTION

Curriculum	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total	(n)
Men						
Vocational	12.3	15.5	47.6	24.7	100	(251)
General	6.8	5.0	57.7	30.5	100	(687)
College Preparatory	4.5	3.7	60.4	31.4	100	(360)
Total	7.1	6.6	56.7	29.7	100	(1298)
Women						
Vocational	16.6	15.5	38.2	29.7	100	(271)
General	9.4	7.4	44.8	38.5	100	(705)
College Preparatory	5.8	3.5	59.0	31.6	100	(418)
Total	9.6	7.7	48.3	34.4	100	(1394)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding. Missing observations are excluded.

TABLE 2.8

VOCATIONAL SPECIALITY OF RESPONDENTS BY WORK EXPERIENCE

PERCENTAGE DISTRIBUTION

Specialty	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total	(n)
Men						
Agriculture	11	2	58	30	100	(57)
Office	4	5	59	33	100	(167)
Trade & Industry	13	10	57	20	100	(147)
Other Specialty	23	23	33	21	100	(29)
No Specialty	6	6	57	32	100	(987)
Total	6.9	6.4	56.5	30.2	100	(1387)
Women						
Office	11	9	52	28	100	(518)
Trade & Industry	22	5	46	27	100	(28)
Home Economics	10	14	34	42	100	(32)
Other Specialty	12	8	51	28	100	(50)
No Specialty	7	6	44	42	100	(842)
Total	9.4	7.5	47.5	35.6	100	(1470)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding. For men, the "other" category includes distributive education, health occupations, and home economics. For women, the "other" category includes distributive education, health occupations, and agriculture.

(the area in which a majority of women in vocational education were enrolled), home economics, and the "other" specialties are within 3 percentage points of each other in the school job only category.

Grade Point Average

While it can be speculated that holding a job while in high school may sacrifice academic performance, previous studies have generally found no support for this hypothesis. The exception is the study by Greenberger and Steinberg (1981) which found working in high school is associated with lower academic performance.

A comparison of students' grade point averages (GPAs) within the four work experience categories is shown in table 2.9. The GPAs have been rounded to the nearest integer and are based on at least three years of data (i.e., grade levels ten through twelve or nine through twelve).* When all categories of students involved in work experience are combined and compared to students who did not work, nonworking students are found to be nearly twice as likely to earn A's than students who work, but working students are more likely to earn B's than their nonworking peers.** There is only a slight difference (2 percentage points) in the proportion of working students receiving F's (failure) compared to youth who had never been employed. In general, the percentage distributions suggest that while working students may not be as likely to receive top grades, they also are no more likely to have the poorest performance records either.

The median GPAs lend further support to this conclusion. For men, these values are surprisingly consistent across the various work experience categories. Examining the mean GPAs,

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*There are several points regarding the GPA results that deserve attention. Because the data were restricted to cases for which at least three years of information were available, most of the respondents included in the analysis were high school graduates. In addition, the GPA data are descriptive at best, and no causality can be assumed. Controls that measure academic performance before the student started working were not available, and therefore, a causal link between GPAs and work experience cannot be established.

**Regarding the GPA and class rank (in the next section) data, it is important to note that the sample sizes for the school-related experience categories are somewhat small and therefore these findings should be regarded as tenative.

TABLE 2.9

GRADE POINT AVERAGE OF RESPONDENTS BY WORK EXPERIENCE

PERCENTAGE DISTRIBUTION

Grade Point Average	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total
Men					
A	9	0	6	10	6.7
B	36	34	42	34	38.7
C	39	49	38	43	40.0
D	13	6	7	7	7.0
F	3	11	8	5	7.1
Total	100	100	100	100	100.0
Mean	2.67	2.10	2.29	2.32	
Median	2.35	2.32	2.31	2.27	
(n)	(67)	(51)	(379)	(232)	(729)
Women					
A	0	2	12	17	11.4
B	50	54	52	43	49.3
C	40	36	26	28	28.6
D	2	0	3	6	3.8
F	8	7	7	6	6.9
Total	100	100	100	100	100.0
Mean	2.33	2.43	2.58	2.60	
Median	2.47	2.43	2.63	2.52	
(n)	(112)	(73)	(405)	(303)	(893)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding. Missing observations are excluded.

men who held only school-related jobs exhibit the highest GPAs, and those who combined school and outside jobs are found to have the lowest GPAs. Both groups, however, appear to have slightly skewed distributions, which would account for the large difference in mean GPAs between the two types of experience. Men who worked only in outside jobs and those who were not employed while in school maintained very similar GPAS.

A different picture emerges for women. In contrast to men, women who were employed only in school-supervised jobs earned the lowest GPAs, but again, the distribution is obviously skewed. None of the women with this type of work experience had (within rounding error) an average grade of an A. Women who combined school and outside jobs fared only slightly better in their grades. Women who did not work and those who held only outside jobs earned the highest mean grades.

Class Rank

A second measure of academic performance is students' rank in class. For analysis, each student's rank was divided by the number in the student's class and converted to a percentile score. Table 2.10 presents these scores by quintile groups. The data show that men who held only outside jobs and men who did not work had slightly higher mean class standings than their peers. This result varies somewhat from the GPA data where males with school jobs only had the highest mean GPA. Men who have a combined school and outside job experience are the least likely group to rank in the upper fifth of their class. In comparison, men who only held school-related jobs are more likely to maintain a GPA that places them in the upper-most class rank but are also slightly more likely than other students to be in the lowest quintile group.

Examining mean percentiles for women reveals a similar pattern. Women who had outside jobs only and those who had no work experience were found to have the highest mean class rank. The mean for women with school-supervised work experience was calculated as being somewhat lower, and these students were much less likely to rank in the top quintile. Approximately 21 percent of the women who held school jobs were in the top quintile of their class; the overall estimate for the sample was 31 percent. In contrast to men, however, women with school-related work experience were not more or less likely to be in the lowest quintile.

The varied characteristics of respondents in the separate work experience categories require that these findings of the possible effects of work experience on overall school performance be interpreted cautiously. About one-fourth of the students who held school-supervised jobs were in government programs for the

TABLE 2.10

CLASS RANK OF RESPONDENTS BY BY WORK EXPERIENCE

PERCENTAGE DISTRIBUTION

Quintile Rank In Class	School Job Only	School and Outside Only	Outside Job Only	No Job	Total
Men					
Top quintile	25	5	17	22	18.6
Second quintile	4	30	23	16	19.8
Third quintile	23	10	21	11	17.7
Fourth quintile	20	31	20	26	21.8
Lowest quintile	29	25	19	26	22.1
Total	100	100	100	100	100.0
Mean percentile	44.8	41.1	49.7	47.3	
Median percentile	43.6	38.9	44.6	37.0	
(n)	(61)	(39)	(349)	(214)	(662)
Women					
Top quintile	21	21	32	34	30.6
Second quintile	24	22	26	28	22.9
Third quintile	19	27	17	16	17.5
Fourth quintile	23	21	17	19	18.3
Lowest quintile	13	9	9	13	10.6
Total	100	100	100	100	100.0
Mean percentile	54.6	55.2	60.9	58.8	
Median percentile	47.9	49.5	61.9	56.6	
(n)	(97)	(65)	(383)	(298)	(843)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding. Missing observations are excluded.

disadvantaged, while members of minority groups and low SES respondents were less likely to hold jobs while in high school. In both the school-supervised and no job categories, therefore, there are many young people from groups that typically have difficulty in school.

As a further complication, it is shown later (table 2.16) that students who followed a concentrated pattern of vocational courses were more likely to receive high school credits and grades for their performance in cooperative education job placements. The skewed distributions of grades in the separate work experience categories result from these varied combinations of students and obscure the possible effects of work experience on school performance.

Educational Aspirations

Clearly, a majority of students aspire to educational levels beyond high school (table 2.11). Across all categories of work experience, 55 to 75 percent of the high school students said they wanted to complete thirteen or more years of education. Males with no work experience and those employed in outside jobs only were somewhat more likely to aspire to sixteen or more years of school than their peers who held school-supervised jobs while in high school. In comparison, women who held outside jobs were more likely than other women to aspire to sixteen or more years of education. Approximately 54 percent of the women who held outside jobs aspired to the college degree level or higher, compared to 44 percent of those with no work experience and 35 percent of those with school jobs only.

For many students, high school marks the end of their formal education. It is this group of students, those who plan to enter the labor force immediately after high school, for whom work experience would be most valuable. If educational aspirations are indicative of such goals, it appears that schools are fairly effective in attracting these students, especially men, into school-supervised jobs. Over 40 percent of the men in school only and school plus outside jobs aspired to the high school diploma level. The comparable estimates for women are 31 and 27 percent. It should be noted, however, that approximately one-third of the men and women who were never employed while in high school said they did not wish to continue their education past high school.

Educational Attainment

The findings indicate (table 2.12) that both men and women who held jobs while in high school had a higher probability of completing at least twelve years of education than those without

TABLE 2.11

EDUCATIONAL ASPIRATIONS OF RESPONDENTS BY WORK EXPERIENCE

PERCENTAGE DISTRIBUTION

Educational Aspirations	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total
Men					
Less than 12 years	1	0	2	2	2
12 years	42	45	35	31	35
13 to 15 years	19	17	13	12	14
16 years	33	27	32	30	31
More than 16 years	6	10	18	24	19
Total	100	100	100	100	100
(n)	(113)	(89)	(661)	(518)	(1381)
Women					
Less than 12 years	1	0	0	4	1
12 years	31	27	25	36	30
13 to 15 years	33	26	19	16	20
16 years	30	35	35	30	33
More than 16 years	5	11	19	14	15
Total	100	100	100	100	100
(n)	(164)	(98)	(593)	(609)	(1464)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding. Missing observations are excluded.

TABLE 2.12

EDUCATIONAL ATTAINMENT OF RESPONDENTS BY WORK EXPERIENCE (1980 INTERVIEW)

PERCENTAGE DISTRIBUTION

Highest Grade Completed	School Job Only	School and Outside Job	Outside Job Only	No Job	Total
Men					
Less than 12 years	12.5	15.0	14.0	21.0	16.1
12 years	78.0	75.0	70.6	52.9	66.1
13 to 15 years	9.5	9.5	15.3	26.1	17.8
Total	100.0	100.0	100.0	100.0	100.0
(n)	(99)	(80)	(613)	(551)	(1243)
Women					
Less than 12 years	9.6	8.3	5.6	23.0	12.4
12 years	72.3	80.0	74.0	51.5	66.3
13 to 15 years	18.1	11.7	20.4	25.4	21.3
Total	100.0	100.0	100.0	100.0	100.0
(n)	(155)	(93)	(559)	(549)	(1356)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding.

jobs.* But working students were also less likely to continue their education beyond that level, particularly students who held school-related jobs. For example, approximately 10 percent of the men who were employed in a school job pursued postsecondary work, compared to 15 percent of the men who held outside jobs. This general pattern is maintained for women but the percentage point difference in postsecondary schooling between women with school jobs only (18 percent) and outside jobs only (20 percent) is smaller and not significant.

The educational attainment pattern of students with no work experience is particularly diverse. Nearly equal percentages of nonworking men and women dropped out of high school (21 and 23 percent) as continued past the secondary level (26 and 25 percent). These findings may be attributed to the combination of characteristics among students who did hold jobs while in high school. Two quite different groups were overrepresented among those who were not employed. One was composed of minorities and low SES students, groups that typically have high dropout rates (Mertens, Seitz, and Cox 1982). The other group consisted of students with little or no involvement in vocational education. These are the students who typically have the highest rates of participation in postsecondary education (Campbell, Gardner, and Seitz 1982). The presence of these two groups in the no job category probably produced the unusual pattern of education attainment found there.

Number of Jobs

Regarding the number of nonsummer jobs respondents held while in high school, the data show that, in general, the majority of students held only one job during high school (see table 2.13). This finding remains true for both men and women and for both school-supervised and outside jobs. Furthermore, it can be concluded that although the differences are quite small and not significant, males in school jobs were less likely than those in outside jobs to hold two jobs and somewhat more likely than this same group to have three or more jobs while in school. Among women the pattern is reversed; those in school jobs are slightly more likely than those who find employment in nonschool

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*Because much of high school work experience is acquired during the senior year, the association between having ever worked while in high school and completing high school arises in part from the definition rather than from any effect on behavior. The data presented here cannot establish any cause/effect relationship between working in high school and completion of high school.

TABLE 2.13

NUMBER OF JOBS HELD WHILE IN HIGH SCHOOL BY WORK EXPERIENCE OF RESPONDENTS

PERCENTAGE DISTRIBUTION

Type of Work Experience	Number of Jobs 1	2	3	4	Total	(n)
Men						
School Job Only	71.2	18.8	6.6	3.3	100	(113)
School and Outside Job	-	60.7	18.2	21.1	100	(90)
Outside Job Only	71.4	22.3	4.9	1.4	100	(663)
Total	64.9	25.4	6.3	3.4	100	(866)
Women						
School Job Only	72.2	22.4	3.3	2.0	100	(164)
School and Outside Job	-	61.5	29.3	9.2	100	(98)
Outside Job Only	70.8	20.1	7.1	2.1	100	(596)
Total	62.7	25.3	9.1	2.9	100	(858)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding.

settings to hold two jobs, and somewhat less likely to pursue three jobs. As expected, persons who were employed in both school and outside jobs were the most mobile; approximately 40 percent of these students held three or more jobs during high school.

When patterns of participation in vocational courses are compared to the number of jobs held (table 2.14), no discernible trends are observed. The exception is that male and female Concentrators more frequently held three or more jobs during high school. Approximately 17 percent of the men who were classified as Concentrators pursued at least three jobs compared to an estimate of 9 percent for the sample. Among women, about 19 percent held three or more jobs compared to a sample estimate of 12 percent.

Several isolated findings are worthy of note. Similar proportions of Concentrator and nonvocational men, 72 percent, only reported having one job in high school, and males with a Limited Concentrator experience reported having held two jobs more often than other students. (This latter result accounts for the substantially lower likelihood of Limited Concentrators having only one job.)

Among women, Concentrators and Limited Concentrators appear to be slightly less likely than average to hold only one job. As with male Limited Concentrators, women with a similar vocational background were more likely than their peers to hold two jobs while in school, but the differences among women are less distinct than those found for men.

School Problems and Delinquent Behavior

The potential negative effects associated with holding a job while in high school have not been addressed in most previous studies. The NLS Youth data base contains information on delinquent behavior that was collected by means of a confidential questionnaire the respondent completed during the 1980 interview. This form listed a number of delinquent acts and asked respondents to indicate how often they had taken part in such behavior in the twelve months prior to the interview. Questions about school problems (i.e., suspension, expulsion) refer to the entire time the student was in school.

In the present study, the main interest was in the differences in such behavior between students who held jobs while in high school and those who did not. Consequently, a subsample was selected that was limited to respondents who were juniors or seniors in high school at the time of the May 1980 interview or who had dropped out of these grades in the three months prior to the interview. Limiting the sample in this way ensured that

TABLE 2.14

NUMBER OF JOBS HELD WHILE IN HIGH SCHOOL BY PATTERNS OF PARTICIPATION

PERCENTAGE DISTRIBUTION

	Number of Jobs					
Pattern	1	2	3	4	Total	(n)
Men						
Concentrator	72	11	10	7	100	(63)
Limited Concentrator	50	39	6	5	100	(71)
Concentrator/Explorer	62	27	4	6	100	(47)
Explorer	73	9	18	-	100	(12)
Incidental/Personal	65	23	8	4	100	(146)
No Vocational Credits	72	21	7	0	100	(121)
Incomplete Transcript	63	29	5	3	100	(406)
Total	65	25	6	3	100	(806)
Women						
Concentrator	55	26	14	5	100	(84)
Limited Concentrator	57	30	7	6	100	(132)
Concentrator/Explorer	65	27	7	1	100	(81)
Explorer	72	28	-	-	100	(8)
Incidental/Personal	65	24	9	2	100	(191)
No Vocational Credits	63	24	13	-	100	(50)
Incomplete Transcript	66	24	8	2	100	(312)
Total	63	25	9	3	100	(858)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding.

these respondents had been in school during most of the twelve month period for which they were reporting.

Tables 2.15 and 2.16 present the frequencies with which the respondents reported experiencing the problems or behaviors listed in the prior twelve months. The frequencies are reported separately for junior and senior males and females. The analysis thus represents two replications, each by sex and grade level, of the apparent effects of holding a job while in high school on school problems and delinquent behavior.

The frequencies vary greatly by type of act from very low (expulsion from school) to very high (use of alcohol), but are fairly similar in general magnitude across sex and grade. When comparisons are made across the work experience categories, a fairly consistent pattern emerges: respondents who are classified as having held both school-supervised and nonsupervised jobs usually have the highest frequencies, and respondents in school-supervised and no job categories have the lowest.

There is no apparent explanation why those who hold both school-supervised and nonsupervised jobs should be so much more likely to have reported school problems or delinquent behavior. Neither the characteristics of individuals in this group nor their jobs differ in any significant way from those who held only school-supervised jobs. Nevertheless, across grades and across sex, those who held both kinds of jobs were more likely to report school problems and delinquent acts.

If the three work experience categories are combined, the incidence of school problems and delinquency is higher than among those who held no jobs. Working while in school does appear to increase the likelihood of having problems in school or committing delinquent acts.

Transcript Classification of Work Experience

As previously noted, the transcript data provided a supplemental source of information about students' high school work experience. If the respondent had received high school credit for cooperative education or work-study classes, the case was classified into the appropriate category. Transcripts that showed no credits in these areas were placed into the work experience category derived from the interview information, except for cases where there were no transcript data. A comparison of the work experience categories from the interview data and those from the transcript data is shown in table 2.17.

The most striking finding in the table is the large proportion of students who reported that they held a school-related job

TABLE 2.15

RESPONDENTS REPORTING SCHOOL PROBLEMS OR DELINQUENT BEHAVIOR IN PREVIOUS TWELVE MONTHS BY WORK EXPERIENCE

PERCENTAGE REPORTING BEHAVIOR

MEN

Problem or Delinquent Behavior	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total
Juniors					
Skipped school	59	84	50	50	52
Used alcohol	71	82	78	71	75
(n)*	(31)	(27)	(300)	(204)	(562)
Suspended from school	40	46	23	28	26
Expelled from school	3	6	3	3	3
Used marijuana	17	33	19	18	19
Shoplifted	26	68	41	29	38
Stole < $50 value	20	28	32	26	29
Stole > $50 value	7	12	10	8	10
(n)	(38)	(39)	(336)	(224)	(637)
Seniors					
Skipped school	38	62	53	36	50
Used alcohol	74	97	72	65	73
(n)*	(22)	(22)	(172)	(61)	(277)
Suspended from school	26	44	26	28	28
Expelled from school	1	1	2	3	2
Used marijuana	47	54	45	34	44
Shoplifted	34	32	30	20	29
Stole < $50 value	23	29	25	27	25
Stole > $50 value	8	2	7	5	6
(n)*	(56)	(64)	(338)	(126)	(584)

NOTE: Percentages shown in the table are weighted.

*Questions on skipping school and drinking of alcohol were asked only of respondents seventeen years of age or younger.

TABLE 2.16

RESPONDENTS REPORTING SCHOOL PROBLEMS OR DELINQUENT BEHAVIOR IN PREVIOUS TWELVE MONTHS BY WORK EXPERIENCE

PERCENTAGE REPORTING BEHAVIOR

WOMEN

Problem or Delinquent Behavior	School Job Only	Both School and Outside Job	Outside Job Only	No Job	Total
Juniors					
Skipped school	50	68	54	32	45
Used alcohol	48	75	78	54	69
(n)*	(30)	(17)	(248)	(264)	(559)
Suspended from school	24	28	11	10	11
Expelled from school	-	4	1	1	1
Used marijuana	44	42	49	33	43
Shoplifted	32	31	32	17	26
Stole < $50 value	8	18	16	10	13
Stole > $50 value	-	3	1	1	1
(n)	(33)	(23)	(259)	(291)	(606)
Seniors					
Skipped school	38	62	60	38	54
Used alcohol	55	68	77	51	68
(n)*	(37)	(49)	(171)	(92)	(349)
Suspended from school	17	15	11	10	12
Expelled from school	3	-	1	1	1
Used marijuana	24	67	54	24	46
Shoplifted	14	29	25	19	23
Stole < $50 value	6	14	17	9	14
Stole > $50 value	2	2	2	1	2
(n)	(71)	(82)	(269)	(173)	(595)

NOTE: Percentages shown in the table are weighted.
*Questions on skipping school and drinking of alcohol were asked only of respondents seventeen years of age or younger.

but who had no cooperative or work-study credits on their transcripts. For example, 37 percent of the men and 26 percent of the women who reported having only a school-related job in the interview showed no such credits on their transcripts. The estimates for men and women who held both school and outside jobs but had neither cooperative education nor work-study credits on their transcripts were 21 and 27 percent.

Many of these apparent discrepancies result from the inclusion of jobs obtained through government programs in the school-related job categories. These represented 28 percent of school-related jobs that were not included on the high school transcript. Another explanation is that students did not receive credit for certain work experience classes and therefore the transcript showed no evidence of participation in them. It is also possible that students overreported the incidence of cooperative/work study jobs. If, for example, a teacher, counselor, or job placement officer helped a student secure a job, the student may have perceived that job to be school related, even if the job was not a part of a formal program and was not monitored by the school. In such cases, the transcript would not provide any indication of credit for working in a school-supervised job.

The issue becomes even less clear when the distribution of respondents in the outside job only and no job categories is examined. A number of students (9 to 26 percent when summed across the transcript classifications) in both of these categories were found to have cooperative education or work-study credits on their transcript, but this did not report participating in such programs in the interview. These were the most frequent sources of discrepancies between the interview and transcript data, as well as the most difficult to explain. If students received credit on their transcripts for holding school-related jobs, the involvement of the school should have been obvious enough to be reported in the interview.

Despite these discrepancies, there was more agreement than disagreement. Overall the "hit" rate--agreement between transcripts and interviews as to work experience categories--was 75 percent.* In addition, the major disagreements that were found should tend to minimize differences between school-related and nonrelated jobs.** Consequently the differences that were found to be associated with school-supervision of work experience are

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*The calculation of this figure excluded respondents with incomplete transcripts.

**This judgment is based on the assumption that transcript data are more likely to be correct than interview data, and on the findings of this study that school supervision has some influence on the nature and outcomes of work experience.

TABLE 2.17

TRANSCRIPT CLASSIFICATION OF WORK EXPERIENCE BY INTERVIEW CLASSIFICATION

PERCENTAGE DISTRIBUTION

Interview Classification	Office Occupations	Trade and Industry	Other Co-op	Work-Study	Co-op and Work-Study	School* Job	Outside* Job	No* Job	Incomplete Transcript	Total	(n)
	Transcript Classification of Work Experience										
Men											
School Job Only	0	8	1	29	0	37	-	-	24	100	(113)
Both School and Outside Job	2	10	1	24	10	21		-	33	100	(90)
Outside Job Only	0	2	1	11	0	-	50	-	36	100	(663)
No Job	0	1	0	8	0	-	-	47	43	100	(521)
Total	0.2	2.9	0.4	12.0	0.9	3.9	28.5	14.2	37.0	100	(1387)
Women											
School Job Only	8	5	4	31	6	26	-	-	21	100	(164)
Both School and Outside Job	16	2	3	30	7	27	-	-	16	100	(98)
Outside Job Only	2	1	0	21	2	-	48	-	27	100	(569)
No Job	1	0	0	15	1	-	-	44	39	100	(612)
Total	2.9	1.3	0.9	20.2	2.1	4.5	22.8	15.7	29.6	100.0	(1470)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding. The "other co-op" category includes agriculture, distributive education, health occupations, and home economics.

*Cases were classified in these categories based on the interview data only if the transcript showed no cooperative education or work-study credits.

probably minimum estimates of the effects of school involvement. If it had been possible to use the transcript data to categorize jobs more directly, larger apparent effects of school supervision may have been found.

The transcript classification of work experience by the patterns of participation is presented in table 2.18. For men, participation in work-study programs is fairly similar across the pattern groups, 15 to 18 percent. The exception is found with the Concentrator pattern where only 9 percent of the men received credit for work-study courses. However, Concentrators and Limited Concentrators were much more likely to have pursued trade and industry co-op courses than men with other vocational backgrounds.

Among women, participation in work-study programs generally increased as students were less involved with vocational education. As with the male cohort, women who were classified as Concentrators, and to some extent Limited Concentrators, were much more likely to participate in cooperative education courses, specifically office occupations, than women with less vocational courses. Approximately one-fifth of the female Concentrators had taken their co-op courses through the office occupations program.

Summary

The descriptive data presented in this chapter provide preliminary insight into the characteristics of students with various types of high school work experience. Differences were noted between students who held jobs and those who did not and between students in school-supervised jobs and those who secured employment on their own. Briefly, the data show that men were somewhat more likely to be employed in high school than women and that white youth were much more likely to hold jobs than minority students. Low SES students were less likely to hold jobs in high school, as were students who lived in the South, women who had a child while in high school, and youth who lived in a rural area. In addition, these data suggest that employment may have some association with a higher likelihood of completing high school, but it is also associated with a somewhat lower likelihood of pursuing postsecondary education. The cross-tabulations do not provide any definitive conclusions about the relationship between high school work experience and academic performance. Work experience was also associated with more frequent reports of school problems or delinquent behavior.

A clear majority of students had obtained jobs on their own rather than through a school or government-sponsored program. However, several factors were found to be associated with having held school-related jobs. Women were somewhat more likely than

TABLE 2.18

TRANSCRIPT CLASSIFICATION OF WORK EXPERIENCE BY PATTERNS OF PARTICIPATION

PERCENTAGE DISTRIBUTION

Pattern	Office Occupations	Trade and Industry	Transcript Classification of Work Experience Other Co-op	 Work-Study	 Co-op and Work-Study	 School* Job	Outside* Job	No* Job	Total	(n)
Men										
Concentrator	2	16	1	9	0	19	44	11	100	(81)
Limited Concentrator	0	12	0	15	2	8	40	23	100	(104)
Concentrator/ Explorer	1	6	0	17	6	4	50	16	100	(60)
Explorer	3	0	0	6	15	17	46	13	100	(18)
Incidental/ Personal	0	0	1	18	0	5	54	24	100	(240)
No Vocational Credits	-	-	-	17	-	5	54	24	100	(177)
Total	0.3	4.6	0.6	19.0	1.5	6.2	45.3	22.5	100	(680)
Women										
Concentrator	20	2	1	12	4	10	31	21	100	(127)
Limited Concentrator	4	5	2	21	3	6	37	22	100	(188)
Concentrator/ Explorer	2	0	0	29	6	12	29	21	100	(112)
Explorer	0	6	0	15	26	13	5	36	100	(15)
Incidental/ Personal	1	0	0	31	1	6	38	23	100	(290)
No Vocational Credits	-	-	-	24	-	3	36	37	100	(95)
Total	4.1	1.8	1.3	28.7	3.0	6.4	32.3	22.3	100.0	(827)

NOTE: Percentages shown in the table are weighted and may not sum to 100 due to rounding. The "other co-op" category includes agriculture, distributive education, health occupations, and home economics.

*Cases were classified in these categories based on the interview data only if the transcript showed no cooperative education or work-study credits.

men to work only in school-supervised jobs, as were minorities and students with a concentration in vocational education.

The next chapter focuses on the types of jobs students held. Cross-tabulations are used to examine the relationships between type of high school work experience and vocational participation and indices such as occupation, earnings, and hours worked.

CHAPTER 3

JOBS HELD WHILE IN SCHOOL

In this chapter jobs are the unit of analysis. In the 1979 and 1980 interviews for the NLS Youth sample, respondents were asked to describe all jobs they held between January 1, 1978, and the 1980 interview. Extensive information was collected at each interview about the respondent's current or most recent job as of the interview date. For all other jobs only basic data were compiled, which included the occupation, industry, dates of employment, the usual rate of pay, hours usually worked per week and per day, and the class of the job (whether it was a private, government, or self-employment job). From the three-digit census occupation codes the job's family and content level can be identified (Scoville 1969). The eighteen job families specify the duties of the job in a classification that is more informative than are the major census occupation groups. The five content levels distinguish the combinations and degree of skills, complexity, and responsibility involved in the job. Because the intent of this study is to describe the variety of jobs that students held in high school, the more restricted range of job characteristics that are available for all of the jobs is used rather than the more detailed characteristics available only for the current or most recent job.

The analysis in this section considers only those jobs that were reported in the interview (described here as "interview jobs") and that were held at some time prior to the respondent's leaving high school (either graduating or dropping out.) Interview jobs include only those jobs that were described in the questionnaire as ". . . done on a more or less regular basis," as distinguished from ". . . work done from time to time, like occasional lawnmowing or babysitting."** It excludes those jobs that could be classified as purely summer jobs. Summer jobs were identified as those in such government programs as the Summer Youth Work Experience Program and the Neighborhood Youth Corps Summer Program, or those jobs that began between May and August and ended between June and September of the same year.

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*If there is any systematic seasonal pattern to high school work, the concentration of the interviews in the spring of the year could invalidate any generalizations one might attempt from using only current or most recent jobs. If hours worked per week or other job characteristics vary seasonally, some error may still be present, even though all jobs are used and even though respondents are asked to report their usual hours worked.

**Nevertheless, about 9 percent of women's jobs that were identified here fall in the "household services" occupation, and nearly all of those are in child care services. These would, presumably, involve regular or more highly formalized forms of babysitting.

Each of the 6,796 high school jobs reported in the interviews is treated as an observation. The tables are compiled to show the weighted distribution of jobs by the characteristics of either the jobs themselves (such as occupation or pay) or of the respondents who held them (such as male or Concentrator). The weighting scheme employs the regular sample survey weights constructed by the Center for Human Resource Research to reflect the different probabilities of selection for each respondent. No adjustments are made for respondents who reported more than one high school job between January 1, 1978, and the 1980 interview.* Each high school job reported by the respondent is included in the tabulation with that respondent's sample weight.

For example, if the original sample included only two respondents, each weighted equally, with the first respondent reporting four jobs and the second reporting only one job, the tabulation would show five jobs. If each job were in a different occupational group, the table would show that each occupational group accounted for 20 percent of all the jobs. If, instead, the second respondent had a sample weight that was six times as large as that of the first respondent, the tabulation would show that 60 percent of all high school jobs were accounted for by the occupational group of the second respondent's job, and 10 percent of the jobs were accounted for by each of the four occupational groups corresponding to the first respondent's four jobs. Either distribution would provide a correct description of the types of jobs respondents held while in high school if the corresponding sampling distribution of respondents were correct.

Note that it is *not* correct to interpret these tables as showing either the *time* spent by high school students in various occupations or the proportion of students who work in such an occupation at some time during their high school years. It would *not* be correct, in the second example, to say that 60 percent *of the time that students spend working* is spent in the occupational group of the second respondent's job. Inferences of that sort would require an adjustment of the sampling weights to reflect the number of weeks and the average hours spent each week working on that job.* Also, it is not strictly correct to say, repeating the first example, that 20 percent of students who work while in high school work in any one of the occupational groups that are named there.

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*A weighting scheme that treats respondents as the unit of observation and that weights each job by a fraction 1/n of the respondent's sample weight, where n is the number of high school jobs held by that respondent, gives distributions of job characteristics that are very close to those reported here.

The examples illustrate that this treatment poses two problems. First, it counts a job that lasted ten weeks equally with one that lasted a year. Second, it allows an individual with several short jobs to influence the distribution more than does an individual who held a single job over the same time span.** The descriptions that follow should be interpreted with those limitations in mind.

School Supervision

A major objective of this study is to distinguish the effects of school-supervised from non-school-supervised work experience jobs on post-high school labor market outcomes. A finding that school-supervised jobs have a more positive impact on outcomes than do nonsupervised jobs might suggest, for example, that schools should expand their role in influencing the types of jobs that students take.

School-supervised jobs that were identified in this study fall into three groups. The first, cooperative education, is designed to give school-supervised work experience with local (usually private) employers as an integrated part of a course. The second, work-study, uses work as a current source of income to aid students in completing their courses of study. The third encompasses government-sponsored programs that existed during years 1978-1980, such as the Neighborhood Youth Corps in-school jobs program, conducted with some cooperation between government agencies and the school. All other jobs are classified here as nonsupervised.

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*The difficulty arises because one can focus on either the job or a measure of working time as the unit of analysis. If working time is the focus, a relatively few students who work many hours per week and many weeks a year at their jobs will dominate the distributions. It is felt that the broader focus with jobs as the unit of analysis gives a "more representative" view of the jobs that teenagers hold while attending school, and that approach seems more appropriate for a general description of high school work experience.

**The point made in the footnote on the preceding page suggests that this second limitation is not a significant source of distortion. The first limitation poses a more serious problem, as discussed in the footnote immediately above.

As shown in table 3.1, women are either more dependent upon or take greater advantage of school-supervised jobs. About 11 percent of the high school jobs held by men are school supervised, compared to almost 16 percent for women. But school-supervised jobs account for less than one-sixth of all jobs held by students. Most work experience in high school (as measured by number of jobs) is obtained without school supervision.

School-supervised jobs are used more often by students who concentrate in vocational education. But they are not the exclusive province of vocational concentrators, nor are most of the jobs held by vocational students school supervised, nor do most vocational concentrators work in school-supervised jobs. Among men, Concentrators are the most likely to hold a school-supervised job, followed by Limited Concentrators and Concentrator/Explorers, with the lowest percentage for students with no vocational credits. Among women, all three concentrator patterns hold about the same proportion of school-supervised jobs (around 22 percent), and the proportion of school-supervised jobs for the Incidental/Personal pattern and for students with no vocational credits is only about half that for Concentrators. Although vocational concentrators hold school-supervised jobs with relatively greater frequency than other students, because they are a minority (about 19 percent of men and 30 percent of women),* they hold only about a fourth (19 percent for men, 30 percent for women) of all the school-supervised jobs. (After excluding students with incomplete transcripts, men with a concentration hold about 35 percent and women about 50 percent, respectively, of men's and women's supervised jobs.)

Most school-supervised jobs are taken by students who have had at least some vocational education. After excluding students with incomplete transcripts, only 16 percent of the remaining supervised jobs held by men and 6 percent of those held by women are held by students with no vocational credits.

Despite the relatively greater frequency of vocational concentrators among school-supervised jobs, one should recall that most concentrators do not work in school-supervised jobs. As noted in chapter 2, less than 30 percent of students in any concentrator pattern ever work in a school-supervised job in high school, and school-supervised jobs provide the only high school work experience for less than 20 percent of the students in any concentrator pattern.

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*The three concentrator groups include about 31 percent of men and 47 percent of women respondents who have complete transcripts. Since about 40 percent of men and 35 percent of women respondents do not have complete transcripts, however, the concentrators are a smaller fraction of the total group.

TABLE 3.1

ALL JOBS AND SCHOOL-SUPERVISED JOBS BY PATTERN OF PARTICIPATION

Pattern	Number of High School Jobs in the Sample Men	 Women	Percentage of All High School Jobs That are School-Supervised Men	 Women
Concentrator	194	269	18.1	21.6
Limited Concentrator	307	388	16.2	22.4
Concentrator/Explorer	162	275	12.3	22.4
Explorer	54	48	12.7	23.8
Incidental/Personal	638	632	9.5	13.1
No Vocational Credits	404	172	7.4	10.7
Incomplete Transcript	1924	1329	11.1	12.5
Total	3683	3113	11.2	15.6

NOTE: Percentages are weighted. School-supervised (School Jobs) include work-study, coop education jobs, and certain kinds of government-sponsored jobs that are explicitly identified as in-school jobs. See text.

Nature of the Jobs

The kinds of tasks performed by students who work while in high school are described here by the occupation, industry, job family, content level, and job class (type of employer). Recall that the jobs identified here are those done on a more or less regular basis and exclude such jobs as occasional lawn mowing or baby-sitting. Data from the High School and Beyond survey (Lewin-Epstein 1981) suggest that such occasional jobs may be held by as many as one-third of working sophomores and almost one-tenth of working seniors. The information presented here provides a more detailed look at the other, more or less regular jobs that students hold. It should be no surprise that, even excluding occasional odd jobs, the majority of jobs held by students require relatively little skill, are concentrated in a few occupational and industrial groups, and reflect traditional sex-role patterns.

Occupation

Objections have occasionally been raised that it is inappropriate to apply the census occupational classification to jobs held by youth (Lewin-Epstein 1981). The interview instructions were designed to eliminate odd jobs; nevertheless, staff of the Center for Human Resource Research could not classify about one-third* of the reported high school jobs into three-digit occupational categories. The descriptions that follow are based upon those jobs that could be classified. It is likely that these classifiable jobs slightly overrepresent skilled and semiskilled jobs, since the unclassifiable jobs are likely to be mostly service jobs (and possibly some laborer or clerical jobs that were hard to describe accurately to interviewers).

Table 3.2 shows that half of the men's jobs (52 percent) are in the service or laborer groups, although each group except managerial and professional/technical or household service has at least 5 percent of all jobs. Women's jobs (table 3.3) are even more highly concentrated (70 percent) in service and clerical occupations. Men reported a higher proportion of craft and operative jobs (24 percent) than did women (5 percent), and women were more often in sales or household service jobs (19 percent) than were men (7 percent). The broad outlines of the distribution of jobs by gender conform to traditional patterns among older workers. Larger proportions of women than men are found in clerical, service, and household service occupations,

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*This proportion is of weighted jobs and includes those cases for which respondents provided no description of the job that they held.

TABLE 3.2

OCCUPATION OF HIGH SCHOOL JOBS

PERCENTAGE DISTRIBUTION

MEN

Pattern	Prof/Mgr	Sales	Clerical	Craft	Operative	Laborer	Farm	Service	HH Service	Total	(n)
Concentrator	1	5	8	14	16	21	12	22	-	100	(139)
Limited Concentrator	6	9	8	11	14	15	6	30	-	100	(204)
Concentrator/ Explorer	2	8	7	5	16	24	9	29	-	100	(117)
Explorer	10	-	13	10	13	16	16	23	-	100	(36)
Incidental/ Personal	5	7	7	9	15	22	4	31	-	100	(432)
No Vocational Credits	3	8	7	8	14	22	2	36	-	100	(268)
Incomplete Transcript	3	6	6	9	15	23	7	30	1	100	(1251)
Type of Job											
School Job	4	3	11	13	16	19	3	31	-	100	(459)
Outside Job	3	7	6	9	15	22	7	30	1	100	(1988)
All	3.4	6.5	6.8	9.3	15.1	21.8	6.3	30.3	0.5	100.0	(2447)

NOTE: Percentages are weighted and may not sum to total because of rounding.

and smaller fractions of women are found in craft, operative, and laborer occupations.

Students with a concentration in vocational education show a somewhat different distribution of jobs than that for other students. Concentrators are more likely than other men to be in craft or farm jobs and are less likely to be in service jobs. For men, higher levels of concentration are associated with a higher proportion of jobs in craft occupations. But only Concentrators differ significantly from students who took no vocational course work.

Female Concentrators are more likely than women with no vocational credits to be in clerical occupations and are less likely to be in sales occupations. They are also less likely to be in service occupations. Women with incomplete transcripts are the most likely group to work in household service occupations (primarily child care jobs).

School-supervised jobs show well-defined differences from nonsupervised jobs, especially for women. For men, craft occupations account for a larger share (and laborer, sales, and farm jobs for a smaller share) of supervised than of nonsupervised jobs. For women, service and sales occupations are less likely to be found among supervised than among nonsupervised jobs. For both men and women clerical jobs are more prevalent among supervised jobs. For women the differences are particularly striking both in clerical and in household service jobs. Less than 1 percent of women's supervised jobs are in household service occupations, compared to over 15 percent of nonsupervised jobs. Over 52 percent of women's supervised jobs are in clerical occupations, compared to only 27 percent of nonsupervised jobs.*

These data suggest that both vocational concentrators and students who work in school-supervised jobs are more likely than other students to work in those occupational groups with more prestige, better pay, and better opportunities to learn useful job skills than for other jobs held by youth. But it is well known that, even for adults, the broad census occupational groups do not identify clearly the differences that exist in skills and job tasks. Scoville (1969) has developed a job classification that, although somewhat dated now, nevertheless gives a better

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*The relative distribution by pattern of participation (between supervised and nonsupervised jobs) of women's jobs other than household service are qualitatively unchanged even if household service jobs are excluded from the calculations.

TABLE 3.3

OCCUPATION OF HIGH SCHOOL JOBS

PERCENTAGE DISTRIBUTION

WOMEN

Pattern	Prof/Mgr	Sales	Clerical	Craft	Operative	Laborer	Farm	Service	HH Service	Total	(n)
Concentrator	1	6	55	-	3	2	2	28	3	100	(168)
Limited Concentrator	2	8	41	-	3	3	1	38	4	100	(269)
Concentrator/ Explorer	2	9	35	1	9	1	1	38	5	100	(175)
Explorer	-	10	25	1	8	1	1	40	15	100	(31)
Incidental/ Personal	4	16	30	-	2	3	2	38	5	100	(365)
No Vocational Credits	5	13	32	1	-	4	4	36	7	100	(107)
Incomplete Transcript	2	7	22	-	6	4	1	42	17	100	(830)
Type of Job											
School Job	2	5	52	1	4	3	-	33	1	100	(484)
Outside Job	2	10	27	-	4	3	1	40	12	100	(1461)
All	2.6	9.2	31.3	.3	4.3	3.0	1.0	38.5	9.7	100.0	(1945)

NOTE: Percentages are weighted and may not sum to total because of rounding.

indication of the type of work performed, its level of complexity, and the skills required to perform it. Scoville's approach allows one to use three-digit census occupations to identify a job as involving one of five levels of skill or complexity (job content) and as including tasks that fall predominantly in one of eighteen categories (job families).

Job Family

For men, about half the high school jobs (52 percent) fall into two job families, nonspecialized tools and personal services (table 3.4). The personal services family includes such occupations as dining room attendant, fast-food counter worker, theater usher, elevator operator, housekeeper, and janitor. The occupations in the nonspecialized tools family range from highly skilled jobs, such as millwright, to highly varied jobs, such as sheetmetal worker, to unskilled general work, such as construction laborer and freight handler. Obviously, most students are working at jobs at the lower end of the skill range within the job family. The types of jobs found in these two families are those one usually associates with school-age male workers.

Other families that each account for more than 5 percent of men's high school jobs are vehicle operators, sales (not requiring specialized product knowledge), clerical, and farm work. The types of job involved in these families are self-evident. Three other job families together account for 10 percent of men's jobs: specialized tools (e.g., photoengravers, painters of signs or manufactured articles, shoe repairers, and telephone lineworkers); specialized machinery and equipment (e.g., drill press or lathe operatives, solderers, fishers, and textile operatives); and nonspecialized machinery and equipment (e.g., earth drillers, cutting operatives, or punch press operatives). Less than 5 percent of the men's jobs are found in all of the eight other job families: inspection, sales (requiring product knowledge), protective service, education, health, welfare (such as clergy or social workers), administration, and research.

Women's jobs are even more heavily concentrated than are men's jobs (table 3.5). Nearly three-quarters are in the personal service (42 percent) and the clerical (31 percent) families. Sales (not requiring product knowledge) and health account for most of the other jobs held by women. The four tools and machinery families together account for only 7 percent of women's jobs, compared to over 40 percent for men.

This distribution of high school jobs by job family corresponds closely to general impressions of the kinds of jobs at which teenagers work.

TABLE 3.4

JOB FAMILY OF HIGH SCHOOL JOBS

PERCENTAGE DISTRIBUTION

MEN

Pattern	Nonspecialized Tools	Other Tools and Machinery*	Vehicle Operation	Farm	Sales (No Specialized Requirements)	Clerical	Personal Services	Other**	Total	(n)
Concentrator	34	11	10	13	6	7	16	3	100	(131)
Limited Concentrator	25	10	10	7	10	9	20	9	100	(186)
Concentrator/ Explorer	30	10	9	10	8	6	20	5	100	(108)
Explorer	23	5	12	16	-	7	21	14	100	(36)
Incidental/ Personal	31	8	11	4	8	7	20	11	100	(397)
No Vocational Credits	32	8	9	3	9	7	23	9	100	(239)
Incomplete Transcript	32	11	9	8	6	5	22	7	100	(1174)
Type of Job										
School Job	30	12	10	3	3	12	23	7	100	(444)
Outside Job	31	9	10	8	8	5	21	8	100	(1827)
All	30.9	9.7	9.7	7.0	7.2	6.0	21.3	8.2	100.0	(2271)

NOTE: Percentages are weighted and may not sum to totals because of rounding.

* Includes Specialized Tools, Specialized Machinery and Equipment, Nonspecialized Machinery and Equipment.

**Includes Inspection, Sales (Specialized Knowledge Required), Entertainment, Protection, Education, Health, Welfare, Administration, and Research.

TABLE 3.5

JOB FAMILY OF HIGH SCHOOL JOBS

PERCENTAGE DISTRIBUTION

WOMEN

Pattern	Tools and Machinery*	Sales (No Special Requirements)	Clerical	Personal Services	Health	Other**	Total	(n)
Concentrator	4	6	53	27	3	7	100	(166)
Limited Concentrator	4	8	42	38	4	4	100	(262)
Concentrator/ Explorer	10	9	35	35	5	6	100	(171)
Explorer	10	11	26	52	-	1	100	(30)
Incidental/ Personal	5	17	31	33	5	9	100	(354)
No Vocational Credits	5	14	33	32	9	7	100	(100)
Incomplete Transcript	9	7	22	53	4	5	100	(799)
Type of Job								
School Job	6	5	53	26	6	4	100	(471)
Outside Job	7	10	26	45	4	8	100	(1411)
All	6.8	9.4	31.4	41.7	4.2	6.5	100.0	(1882)

NOTE: Percentages are weighted and may not sum to totals because of rounding.
*Includes Specialized and Nonspecialized Tools and Machinery and Equipment.
**Includes Inspection, Vehicle Operation, Farm, Sales (Specialized Knowledge Required), Entertainment, Protection, Education, Welfare, Administration, and Research.

For men there are few differences by pattern of participation in vocational education in the distribution of jobs by job families. Vocational Concentrators are slightly more likely than students with no vocational education credits to work in the tools and machinery families and slightly less likely to work in personal service jobs, but those differences are not statistically significant. Concentrators are significantly more likely to work at jobs that use farming skills.

For women a clearer relationship emerges between patterns of participation and job family. Patterns that reflect greater concentration in vocational education have a higher proportion of their students in clerical jobs and a smaller proportion in sales (no product knowledge) jobs.

Most school-supervised jobs for men are not markedly different in job family from most nonsupervised jobs. The principal differences are that supervised jobs are relatively more likely to be in the clerical or nonspecialized machinery and equipment families and less likely to be in farm or sales (no product knowledge) occupations. But the differences in personal service, nonspecialized tools, and vehicle operation families, which account for most men's jobs, are very small and not statistically significant.

For women a clearer pattern emerges. Compared to jobs students obtain on their own, school-supervised jobs are much more likely (53 percent compared to 26 percent) to involve women in clerical jobs, somewhat less likely (5 percent compared to 10 percent) to involve them in sales (no product knowledge), and much less likely (26 percent compared to 45 percent) to involve them in personal service jobs.

It would appear that men on their own find jobs that involve tasks similar to those in school-supervised jobs. Women, in contrast, obtain much different jobs under school supervision than they would obtain on their own.

Job Content

The great majority of high school jobs, as classified in table 3.6, require little skill and involve little complexity or responsibility. Over three-fourths of the jobs of both sexes are at the two lowest content levels (IV and V). Most of these jobs involve unskilled clerical, service, or manual labor tasks. This preponderance of low-skilled jobs is not surprising. What is perhaps surprising is that as much as one-fifth of the jobs are at or above the intermediate content level. A substantial proportion of jobs held while in high school apparently involves at least some mental effort for students. For both men and women, school-supervised jobs are more likely than nonsupervised jobs

TABLE 3.6

JOB CONTENT LEVEL OF HIGH SCHOOL JOBS

PERCENTAGE DISTRIBUTION

	Men						Women					
Pattern	I or II	III	IV	V	Total	(n)	I or II	III	IV	V	Total	(n)
Concentrator	3	20	12	65	100	(131)	1	48	29	21	100	(166)
Limited Concentrator	4	27	19	50	100	(186)	3	24	46	27	100	(262)
Concentrator/ Explorer	-	19	16	65	100	(108)	-	25	47	28	100	(171)
Explorer	10	20	12	58	100	(36)	-	22	46	32	100	(30)
Incidental/ Personal	4	18	22	57	100	(397)	3	19	54	25	100	(354)
No Vocational Credits	2	16	25	57	100	(239)	6	21	45	28	100	(100)
Incomplete Transcript	4	18	17	62	100	(1174)	2	14	40	44	100	(799)
Type of Job												
School Job	6	22	15	57	100	(444)	5	44	34	18	100	(471)
Outside Job	2	18	19	60	100	(1827)	2	16	46	36	100	(1411)
All	3.2	18.6	18.7	59.4	100.0	(2271)	2.5	21.2	43.5	32.9	100.0	(1882)

NOTE: Percentages are weighted and may not sum to totals because of rounding. Level I represents the most highly-skilled jobs, level V the least highly-skilled.

to involve such challenges, that is, to be at or above content level III. Almost half of the school-supervised jobs for women but only about one-fourth of those for men are at this level. This difference in content level by gender occurs because simple clerical jobs demand a higher minimum academic proficiency than do the simple manual jobs in which men more frequently work.

Strongly for women and to a lesser degree for men, school supervision increases the content level and presumably opportunities for learning on the job. Concentration in vocational courses appears to have some effect, but this is primarily due to the larger proportions of concentrators in school-supervised jobs. Vocational concentration alone does not appear to be associated with content, but it is associated with working in school-related jobs that have higher content levels.

Job Class

The relationships that are apparent between job class and pattern of participation in table 3.7 are very weak. Almost nine out of ten jobs at which high school students work are provided by private employers (although some may be paid for by units of government). Male Concentrators and Incidental/Personal participants are slightly less likely than other patterns to be employed by government, but differences among the pattern groups are not statistically significant. Male Concentrators and Concentrator/Explorers include some self-employed students, but the Incidental/Personal pattern does, also. Among women, also, differences among the vocational patterns are not statistically significant.

But the job class differs considerably by school supervision. Distribution of jobs by job class between supervised and nonsupervised jobs is nearly identical for men and women. The large fraction of school-supervised jobs in which government is the employer suggests that it may be relatively easy for schools either to employ students directly or to arrange with other governmental units for employment. It also suggests that, contingent on the availability of private sector jobs, there may be considerable scope for expanding linkages between schools and private sector employers.

Industry

More than half of all high school jobs are found in wholesale or retail trade. The percentages in that industry are almost identical for men (52.3 percent in table 3.8) and women (52.4 percent in table 3.9). Most of these jobs involve working as stockpersons, baggers, file clerks, or sales clerks. Professional services and manufacturing also provide substantial

TABLE 3.7

JOB CLASS OF HIGH SCHOOL JOBS

PERCENTAGE DISTRIBUTION

Pattern	Men					Women				
	Private	Government	Self-Employed	Total	(n)	Private	Government	Self-Employed	Total	(n)
Concentrator	92	6	2	100	(138)	90	9	1	100	(170)
Limited Concentrator	90	8	2	100	(205)	90	9	1	100	(267)
Concentrator/ Explorer	90	7	3	100	(119)	89	10	1	100	(174)
Explorer	88	11	1	100	(37)	93	7	-	100	(33)
Incidental/ Personal	91	6	3	100	(431)	91	8	1	100	(375)
No Vocational Credits	90	9	-	100	(266)	93	5	2	100	(106)
Incomplete Transcripts	89	8	3	100	(1255)	87	10	2	100	(836)
Type of Job										
School Job	67	33	-	100	(460)	68	32	-	100	(484)
Outside Job	94	4	3	100	(1991)	94	4	2	100	(1477)
All	90.1	7.6	2.3	100	(2451)	89.2	9.2	1.6	100.0	(1961)

NOTE: Percentages are weighted and may not sum to totals because of rounding.

TABLE 3.8

INDUSTRY OF HIGH SCHOOL JOBS

PERCENTAGE DISTRIBUTION

MEN

Pattern	Ag/* Mining	Construction	Manufacturing	Transport	Trade	Finance	Business Service	Personal Service	Entertainment	Prof. Service	Public Administration	Total	(n)
Concentrator	14	2	12	3	47	1	10	1	1	8	1	100	(137)
Limited Concentrator	5	5	8	2	59	2	4	3	4	5	1	100	(202)
Concentrator/ Explorer	9	9	12	1	50	1	7	2	1	7	1	100	(116)
Explorer	16	10	5	5	49	-	1	1	5	9	-	100	(35)
Incidental/ Personal	5	5	8	3	58	1	3	3	7	6	-	100	(426)
No Vocational Credits	4	2	9	2	62	-	5	3	5	7	-	100	(266)
Incomplete Transcript	9	6	13	2	46	2	7	4	3	6	2	100	(1242)
Types of Job													
School Job	5	6	12	1	36	2	6	1	3	23	5	100	(455)
Outside Job	8	5	10	2	55	1	5	4	4	4	1	100	(1969)
All	7.6	5.3	10.7	2.2	52.0	1.4	5.5	3.3	4.3	6.4		100.0	(2424)

NOTE: Percentages are weighted and may not sum to totals because of rounding.
*Mining jobs are negligible in this sample.

TABLE 3.9

INDUSTRY OF HIGH SCHOOL JOBS

PERCENTAGE DISTRIBUTION

WOMEN

Pattern	Ag/* Mining	Construction	Manufacturing	Transport	Trade	Finance	Business Service	Personal Service	Entertainent	Prof. Service	Public Administration	Total	(n)
Concentrator	5	-	9	1	44	13	3	4	2	17	2	100	(167)
Limited Concentrator	2	1	4	1	60	3	4	7	1	15	3	100	(267)
Concentrator/ Explorer	1	-	7	1	58	4	2	7	4	13	3	100	(178)
Explorer	6	-	15	-	43	-	11	16	-	10	-	100	(31)
Incidental/ Personal	2	-	3	1	62	5	2	8	4	13	1	100	(364)
No Vocational Credits	2	3	3	1	59	-	1	9	4	17	1	100	(102)
Incomplete Transcript	1	1	6	-	49	2	2	21	2	12	3	100	(818)
Types of Job													
School Job	1	1	7	2	38	4	2	2	3	31	10	100	(480)
Outside Job	2	1	5	1	58	4	2	15	2	9	1	100	(1442)
All	1.9	0.8	5.6	0.8	53.9	3.9	2.3	12.8	2.5	13.4	2.4	100.0	(1922)

NOTE: Percentages are weighted and may not sum to totals because of rounding.
*Mining jobs are negligible in this sample.

fractions of all jobs. As one might expect, jobs involving manual labor in manufacturing are relatively more frequent for men than for women, and jobs in the professional services industry, which are primarily in clerical occupations, are more frequent for women than for men. The remaining one-third of jobs are found in different industries for men than for women. Women are concentrated in the personal services industry (13 percent), which includes a large number of child care jobs, and dispersed in small percentages in the other industries. Men are divided in somewhat larger and more equal percentages among the agriculture, business and repair service, construction, and entertainment industries.

Relationships between industry and pattern of participation in vocational education were difficult to discern. For example, among men, where differences among patterns exist, Limited Concentrators appear to be more like students with no vocational credits than like Concentrators or Concentrator/Explorers.

Among women, the clearest contrast is between Concentrators and students with no vocational credits. Concentrators are much less likely than women with no vocational credits to be in trade or personal service jobs and somewhat more likely to be in jobs in agriculture, manufacturing, and finance.

School-supervised jobs are somewhat different from nonsupervised jobs in terms of industry. Trade jobs account for between 36 and 38 percent of all supervised jobs, but they represent 55 to 58 percent of nonsupervised jobs. Among women, only 2 percent of supervised jobs are in the personal services industry compared to 15 percent for nonsupervised jobs. Men's and women's supervised jobs are more likely than nonsupervised jobs to be in professional services or public administration.

As one would expect, most jobs held by high school students are in industries with considerable seasonal or cyclical fluctuations and in which manual or clerical work requiring little investment in human capital is needed.

Hours Worked

The interview information poses a problem for discussing hours worked and rates of pay. For jobs that began while the student was in high school but continued after the student left high school, the hours and rates of pay reported at the date of interview may not be the same as those that applied before the student left high school. Including those jobs in the analysis would render it impossible to draw conclusions about the principal focus of concern here--the pay and hours worked by students while they attend high school.* Of the 6,796 jobs identified as high schools jobs, 1,451 continued to be held for at least two months after the student left high school. Those jobs have been excluded from the data that are reported in this chapter on hours and rates of pay. Since the jobs that are most likely to continue to be held after leaving high school are those that, even while the student attends school, have better pay and longer hours, the data on the remaining 5,345 jobs probably provide lower bounds on the estimates of work hours and pay while in high school.**

Questions were asked concerning both hours worked per week and hours worked per day. For hours worked per week the nonresponse rate was less than 3 percent. But hours per day information was not obtained for about one-third of the jobs because the question was not asked if the respondent either worked less than twenty hours per week or held the job for fewer than nine weeks. Thus, only the concept of hours worked per week is considered here.

As tables 3.10 and 3.11 indicate, a rather substantial proportion of high school jobs involve significant commitments of time. One-third of the jobs held by women and nearly half of those held by men involve more than twenty hours of work in a normal week. One job in seven involves more than thirty hours per week. About 10 percent more of men's than of women's jobs involve more than thirty hours per week. The difference between men's and women's jobs in mean hours worked is small, about two and a half hours per week, but it is statistically significant.***

School-supervised jobs require slightly more time per week. On average, women's supervised jobs involve 19.7 hours and

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*The characteristics previously described (occupation, industry, class, content, and family) are much less likely than pay or hours to change (within the same job) after the employee leaves school.

**When the 1,451 jobs are included, average hours and pay are higher. The problem is that it is impossible to say from these data whether the higher pay and longer hours also characterized these jobs when the students were in high school.

***In the remainder of this chapter, statistical significance of differences in means was determined from t-tests and refers to the .05 level.

TABLE 3.10

USUAL HOURS WORKED PER WEEK FOR JOBS HELD WHILE IN HIGH SCHOOL

PERCENTAGE DISTRIBUTION

MEN

Pattern	1-10	11-20	21-30	31 or more	Missing	Total	Mean Hours	Standard Error	(n)
Concentrator	24	27	23	25	1	100	23.1	13.6	(145)
Limited Concentrator	21	38	25	14	2	100	20.6	11.5	(236)
Concentrator/ Explorer	20	30	25	22	3	100	23.1	13.7	(122)
Explorer	24	32	28	14	2	100	20.0	10.7	(43)
Incidental/ Personal	19	37	27	16	1	100	21.2	11.7	(495)
No Vocational Credits	24	36	22	17	2	100	20.4	11.0	(292)
Incomplete Transcript	29	28	21	20	3	100	20.9	13.4	(1572)
Type of Job									
School Job	20	32	25	21	1	100	22.6	11.1	(502)
Outside Job	26	31	23	18	2	100	20.8	12.8	(2403)
All	24.9	31.5	22.8	18.5	2.3	100.0	21.1	12.5	(2905)

NOTE: Percentages and means are weighted, and percentages may not sum to totals because of rounding. Jobs held while in high school exclude jobs that respondents continued to hold after leaving high school.

TABLE 3.11

USUAL HOURS WORKED PER WEEK FOR JOBS HELD WHILE IN HIGH SCHOOL

PERCENTAGE DISTRIBUTION

WOMEN

Pattern	1-10	11-20	21-30	31 or more	Missing	Total	Mean Hours	Standard Error	(n)
Concentrator	18	50	19	12	1	100	19.5	9.6	(206)
Limited Concentrator	20	39	25	12	4	100	19.9	9.9	(280)
Concentrator/ Explorer	31	36	15	16	3	100	18.4	11.0	(212)
Explorer	37	41	8	10	3	100	17.9	14.2	(42)
Incidental/ Personal	29	37	20	11	3	100	18.5	11.3	(486)
No Vocational Credits	28	44	15	12	1	100	17.7	10.3	(116)
Incomplete Transcript	35	32	13	17	3	100	18.3	12.8	(1088)
Type of Job									
School Job	24	36	26	12	2	100	19.7	9.9	(538)
Outside Job	31	36	15	15	3	100	18.4	12.1	(1902)
All	30.1	36.2	16.8	14.4	2.6	100.0	18.7	11.7	(2440)

NOTE: Percentages and means are weighted, and percentages may not sum to totals because of rounding. Jobs held while in high school exclude jobs that respondents continued to hold after leaving high school.

nonsupervised 18.4 hours. For men, supervised jobs also involve about two more hours in a normal week than do nonsupervised jobs. Both differences are statistically significant. The principal difference between the sexes in time worked is that the longest jobs (over thirty hours) are more likely to be supervised jobs for men and nonsupervised jobs for women.

Vocational Concentrators and Limited Concentrators are more likely among women to work more hours per week than students who have little or no vocational training, but the difference is not statistically significant. Moreover, the average may be misleading. It is attributable entirely to the small percentage of Concentrators and Limited Concentrators who work ten or fewer hours per week, not to any tendency for vocational students to be more likely to work more than twenty or more than thirty hours per week.

Among men, Concentrators and Concentrator/Explorers worked more than thirty hours per week relatively more often than students with no vocational education, and they work an average of two and a half more hours of work per week. The difference is statistically significant.

Earnings

Hourly rate of pay. Because the jobs that are identified here could have been held between January 1978 and May 1980, an adjustment of earnings for inflation is necessary. Most jobs identified in the 1979 interview were held in 1978, and a similar time lag applies to jobs identified in the 1980 interview. Thus, in the analysis, the hourly pay for jobs reported in the 1979 interview was increased by 7.9 percent, the percentage in current dollars by which adjusted hourly earnings in the private nonagricultural sector increased between the two years.* The reporting period for the jobs studied here spans three levels of the federal minimum wage. On January 1 of 1978, 1979, and 1980, respectively, the wage minimum levels for jobs not involving tips were $2.65, $2.90, and $3.10. Because the inflation adjustment just described is not exact,* the brackets chosen for table 3.12 and 3.13 were set wide enough to encompass in one group all rates of pay within about 10 percent of the upper and lower bounds of the minimum wage over the period. For both sexes the clear majority of jobs held in high school fall within this range ($2.51-$3.50).

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*The increase in average earnings (adjusted for overtime and changes in interindustry mix), not in consumer prices, is the appropriate adjustment in this case. The intent is to maintain comparability between those rates of pay that were in the same relative position in the wage distribution in each year. The average level of real hourly earnings fell 3 percent between 1978 and 1979. Comparing real hourly earnings of 1978 and 1979 jobs confounds two sources of difference in earnings, the lower average real earnings of 1979 and any differences among respondents in their relative position in that shifted distribution of earnings.

Nonetheless, in a substantial fraction of jobs workers are paid at least a statistically significant 10 percent less than the federal minimum, and the fraction is considerably larger for women (33 percent) than for men (19 percent). Because the NLS Youth survey question explicitly reminds respondents to include the usual value of tips and bonuses in their reported hourly earnings, the larger fraction of women with reported earnings below $2.51 per hour should not be attributable to omission of tip income for waiting tables or similar jobs. The difference in earnings should reflect actual differences in the usual pay received rather than differences in reporting standards. The lower earnings for women are attributable partly to the 10 percent of women's jobs that are in household service occupations, which are not likely to be subject to the federal minimum. Because of this large fraction of low-paying jobs, the average earnings of the jobs held by women are below the 1979 minimum of $2.90 per hour, both overall and for most of the categories that were separately calculated. When household service jobs are excluded, however, the average hourly earnings for women are higher by $.17 per hour, but they are still a statistically significant $.20 per hour below the average for men. The average for men is about $.25 per hour above the 1979 minimum.

Among women, students with no vocational credits have the highest hourly mean earnings, and those respondents with incomplete transcripts have the lowest.** When household service jobs

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*A "more precise" adjustment reflecting monthly rather than annual differences in money wage levels requires adopting specific assumptions about whether the reported pay better represents labor market conditions when the job was started or when it was left. One assumption ignores the possibility of wage increases over time within a job. The other assumption overlooks the possibility that students are more likely to quit jobs for which earnings have failed to keep up with the market. The absence of a complete wage history on each job would seem likely to introduce more error than accuracy into any month-by-month inflation adjustments.

**Recall that Explorers, though included in the tables for completeness, are usually not considered for comparisons in the text.

TABLE 3.12

USUAL HOURLY EARNINGS OF JOBS HELD WHILE IN HIGH SCHOOL
1979 DOLLARS

PERCENTAGE DISTRIBUTION

MEN

Pattern	$2.50 and less	$2.51-$3.50	$3.51-$5.50	Over $5.50	Mean	Standard Error	(n)
Concentrator	24	56	20	1	$2.90	1.07	(86)
Limited Concentrator	19	65	14	2	3.02	.97	(136)
Concentrator/ Explorer	21	54	23	2	3.11	1.43	(78)
Explorer	19	67	14	-	2.99	.64	(23)
Incidental/Personal	21	54	23	2	3.11	1.07	(297)
No Vocational Credits	14	66	16	4	3.16	1.01	(170)
Incomplete Transcript	18	59	18	5	3.24	1.48	(910)
Type of Job							
School Job	12	68	17	2	3.15	1.10	(390)
Outside Job	20	57	19	4	3.15	1.33	(1310)
All	18.8	59.1	18.6	3.5	3.15	1.33	(1700)

NOTE: Percentages and means are weighted, and percentages may not sum to 100 because of rounding. Jobs held while in high school exclude jobs that respondents continued to hold after leaving high school.

TABLE 3.13

USUAL HOURLY EARNINGS OF JOBS HELD WHILE IN HIGH SCHOOL
1979 DOLLARS

PERCENTAGE DISTRIBUTION

WOMEN

								Excluding Household Service		
Pattern	$2.50 and less	$2.51-$3.50	$3.51-$5.50	Over $5.50	Mean	Standard Error	(n)	Mean	Standard Error	(n)
Concentrator	26	63	9	2	$2.86	.99	(116)	$2.95	.93	(111)
Limited Concentrator	27	63	9	1	2.76	.88	(184)	2.85	.82	(176)
Concentrator/ Explorer	29	60	10	-	2.79	.84	(124)	2.88	.71	(115)
Explorer	53	47	-	-	2.36	.77	(25)	2.40	.81	(23)
Incidental/ Personal	25	60	13	2	2.96	1.26	(252)	3.09	1.19	(238)
No Vocational Credits	32	62	-	7	3.03	2.02	(62)	3.29	2.03	(55)
Incomplete Transcript	41	48	9	2	2.64	1.41	(599)	2.91	1.30	(509)
Type of Job										
School Job	15	71	10	3	3.15	1.38	(400)	3.15	1.38	(397)
Outside Job	39	51	9	2	2.65	1.22	(962)	2.86	1.10	(830)
All	33.4	55.3	9.4	1	2.80	1.32	(1362)	2.97	1.21	(1227)

NOTE: Percentages and means are weighted, and percentages may not sum to 100 because of rounding.
Jobs held while in high school excludes jobs that respondents continued to hold after leaving high school.

are excluded, however, Limited Concentrators have the lowest mean hourly earnings. Among men, the respondents with incomplete transcripts have the highest average earnings and vocational Concentrators the lowest.

These differences among pattern groups for men are not a result of differences in earnings on school-supervised jobs. The mean earnings for men are identical for supervised and nonsupervised jobs, $3.15 per hour. This equality occurs because the greater frequency of higher-earning nonsupervised jobs is offset by a higher frequency of lower-earning jobs. Mean hourly earnings of male Concentrators are lower than for other men because 24 percent earn less than $2.51 per hour compared to about 20 percent of the respondents in most other patterns. The difference is statistically significant for the comparison between Concentrators and students with no vocational credits.

Unlike men, women in supervised jobs average considerably more than those in nonsupervised jobs; the difference is statistically significant, and more than twice as large a fraction of nonsupervised jobs pays less than $2.51 per hour. The differences are reduced but remain statistically significant if household service jobs (almost all of which are nonsupervised) are excluded. The mean earnings are higher for women with no vocational credits because of the 7 percent of those who earn more than $5.50 per hour.

Weekly income. The usual weekly income from a job was calculated by multiplying usual hourly earnings by the number of hours usually worked in a week. Unless teenagers are multiple jobholders, these data provide an estimate of weekly income during the school year for those weeks the student was working.

The weekly earnings reported in tables 3.14 and 3.15 are generally low. Most women students who work earn less than most men, and the difference in mean earnings is statistically significant. About 34 percent of men's jobs and 46 percent of women's jobs yield earnings of less than $50 in a usual week. The most common range among those calculated for the tables is $51-$75, which accounts for 26 percent of the men's jobs and 28 percent of women's jobs. For a small but important proportion of jobs, students' reported earnings are over $100 per week. The percentage is larger for men (over 22 percent) than for women (14 percent). But these data suggest that for an important proportion of jobs, working while in school provides a significant source of individual or family income.

TABLE 3.14

USUAL WEEKLY EARNINGS OF JOBS HELD WHILE IN HIGH SCHOOL
1979 DOLLARS

PERCENTAGE DISTRIBUTION

MEN

Pattern	$25 and less	$26-$50	$51-$75	$76-$100	$101-$200	Over $200	Mean	Standard Error	(n)
Concentrator	13	20	20	20	25	2	$75	45.4	(85)
Limited Concentrator	4	27	31	23	14	1	72	33.6	(136)
Concentrator/ Explorer	10	23	29	11	21	6	83	62.2	(76)
Explorer	25	14	24	14	23	-	65	38.3	(23)
Incidental/ Personal	14	16	29	22	19	1	74	45.6	(293)
No Vocational Credits	11	16	32	20	20	1	77	45.9	(169)
Incomplete Transcript	18	19	23	16	21	3	73	53.6	(902)
Type of Job									
School Job	7	22	25	22	23	1	76.52	43.1	(386)
Outside Job	16	18	26	18	20	2	73.45	51.0	(1298)
All	14.8	18.9	25.8	18.4	20.1	2.1	74.15	49.3	(1684)

NOTE: Percentages and means are weighted, and percentages may not sum to 100 because of rounding.
Job held while in high school exclude jobs that respondents continued to hold after leaving high school.

TABLE 3.15

USUAL WEEKLY EARNINGS ON JOBS HELD WHILE IN HIGH SCHOOL 1979 DOLLARS

PERCENTAGE DISTRIBUTION

WOMEN

Pattern	$25 and less	$26-$50	$51-$75	$76-$100	$101-$200	Over $200	Mean	Standard Error	(n)	Excluding Household Services Mean	Standard Error	(n)
Concentrator	12	20	39	16	12	-	$64	32.2	(115)	$66	31.2	(11[illegible]
Limited Concentrator	14	27	32	14	13	-	62	32.2	(181)	65	31.3	(173)
Concentrator/ Explorer	10	34	27	17	12	-	60	30.1	(120)	63	28.4	(111)
Explorer	24	29	33	1	13	-	51	35.3	(24)	46	32.6	(22)
Incidental/ Personal	14	24	29	16	15	1	65	39.6	(243)	68	39.0	(231)
No Vocational Credits	24	33	31	6	6	-	48	28.7	(61)	53	26.5	(55)
Incomplete Transcript	28	25	23	10	14	-	54	40.8	(591)	64	39.1	(504)
Type of Job												
School Job	11	30	30	12	16	1	64.51	36.0	(393)	64.86	35.8	(390)
Outside Job	23	25	27	12	13	-	56.26	38.0	(942)	63.92	36.0	(816)
All	20.3	3 25.7	27.8	12.4	13.4	.4	58.69	37.6	(1335)	64.22	35.9	(1206)

NOTE: Percentages and means are weighted, and percentages may not sum to 100 because of rounding.
Jobs held while in high school exclude jobs that respondents continued to hold after leaving high school.

Male concentrators do not show a simple pattern of weekly earnings. Differences among pattern groups in mean earnings are not statistically significant. But there are some noteworthy differences in the distribution of earnings. Concentrator/Explorers tend to report jobs with higher weekly income more often than other pattern groups. Jobs of Limited Concentrators tend to cluster in the middle range between $26 and $100 per week. Concentrators tend more often to have jobs at the extremes of the distribution, either less than $50 per week or over $100 per week. Male Concentrators apparently tend to take either of two kinds of jobs, a kind that allows many hours or a kind that is restricted in its hours because it is a part of a course program.

Women's earnings show a slightly clearer distributional pattern. All concentrators report jobs with higher mean weekly earnings than respondents with no vocational education or those with incomplete transcripts.* And among concentrators, those with heavier concentration earn more, although the differences are not statistically significant. The difference in mean earnings is significant, however, for the comparison of Concentrators with students who have no vocational credits. Other differences are generally not statistically significant.

Supervised jobs provide weekly earnings that are higher both for men and for women than those in nonsupervised jobs, but the differences are statistically significant only for women and when household service jobs are kept in the comparison. Supervised jobs for men are more likely to provide between $76 and $200 per week, although they are slightly less likely to yield more than $200 per week. For women, the fraction of nonsupervised jobs is higher than that of supervised jobs only in the lowest income bracket, $25 or less per week.

Income from high school jobs. The best measure of the immediate contribution that high school work makes to students' or their families' financial status is given by the total income from all high school jobs at which each student works. That measure combines in a single figure the impact of hourly rate of pay, hours worked per week, weeks and months worked per year, and the number of different jobs at which they work. Because the data available for this study are limited to two years of interviews, the total income figures shown in table 3.16 are calculated only for high school seniors who graduated in 1978 or

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*But for the latter group the statement holds true only if household service jobs are included in the calculations.

TABLE 3.16

LABOR INCOME OF HIGH SCHOOL GRADUATES AS SENIORS
1978-79 AND 1979-80
1979 DOLLARS

PERCENTAGE DISTRIBUTION

	Men							Women						
Pattern	$0	$1-$1000	$1001-$2500	Over $2500	X	Total	(n)	$0	$1-$1000	$1001-$2500	Over $2500	X	Total	(n)
Concentrator	24	5	8	13	50	100	(76)	45	3	5	7	40	100	(116)
Limited Concentrator	35	4	9	9	43	100	(98)	35	4	11	14	36	100	(184)
Concentrator/ Explorer	36	1	3	20	40	100	(58)	35	4	9	13	39	100	(111)
Explorer	32	3	-	25	40	100	(17)	49	-	-	3	48	100	(15)
Incidental/ Personal	43	3	8	11	35	100	(223)	46	2	4	8	40	100	(276)
No Vocational Credits	41	3	4	12	40	100	(116)	57	-	7	2	34	100	(96)
Incomplete Transcript	40	1	11	9	39	100	(363)	41	2	7	13	37	100	(379)
Racial/Ethnic Group														
Hispanic	42	3	7	14	34	100	(144)	53	4	10	8	25	100	(161)
Black	56	2	8	4	30	100	(238)	57	4	7	6	26	100	(306)
White	37	3	8	12	40	100	(619)	40	2	7	11	40	100	(712)
All	39	3	8	11	39	100	(1001)	43	3	7	10	37	10	(1179)

NOTE: Percentages are weighted and may not sum to totals because of rounding. X refers to respondents who held high school jobs but could not be classified by income because either the tenure of the job was unknown or the job continued beyond the date they left high school.

1979.* The figures are likely to understate slightly the frequency of working.

Table 3.16 suggests that nearly 60 percent of graduating high school seniors earned income from "more or less regular" (as opposed to occasional) jobs in the 1978-79 and 1979-80 school years.** But there are substantial differences by sex and among racial/ethnic groups. Within the full sample, and among whites and Hispanics, a lower percentage of women than of men earn income from regular jobs. But blacks of either sex earn income less frequently than do other respondents. Undoubtedly these results are related to the severe unemployment problems experienced by black teenagers.

Among those respondents who earn income from high school jobs during their senior year, the income is rather substantial. Half of both the men and the women with income earn more than $2,500 from their jobs. Only about one-seventh earn less than $1,000. For the sample as a whole, the distribution of income is quite similar between men and women.

Male Concentrators and female Limited Concentrators and Concentrator/Explorers earn income from regular jobs as seniors more frequently than do students who follow other patterns of participation. But within these patterns, as with the entire sample, about half of those who reported income earn more than $2500, and less than one-sixth earn less than $1000.

Table 3.16 shows a percentage of respondents for whom incomes could not be calculated either because the length of time they spent in one of their jobs was unknown or because one of their jobs continued beyond the date at which they left high school. As noted in chapter 3, earnings and hours data for jobs that continued beyond high school are suspect as measures of hours and earnings while the respondent was still in high school. Because of the large proportion of respondents who fell into this category, a hypothetical allocation was made on the assumption that any high school job for which income could not be calculated provided its holder the average yearly income for the same type of job (supervised/nonsupervised) held by respondents of the same sex with the same racial or ethnic background. The averages were calculated from 5,345 jobs identified in chapter 3 as jobs that were not held beyond high school.

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*Complete work histories for a respondent's entire high school "career" are not available at this stage of the NLS Youth survey.

**These data include income from summer months for jobs held during the school year but exclude income from purely summer jobs.

When these allocations are made, most respondents listed in the "X" columns of table 3.16 are classified as receiving over $2,500 from their jobs. None show up in the $1-$1,000 category because the lowest average income for a job exceeded $1,200. For both men and women this allocation shows, first, that about equal percentages (15 percent of men and 25 percent of women) of Concentrators and students with no vocational education earn between $1,000 and $2,500 in their senior year, and, second, that all concentrator pattern groups earn at least $2,500 more frequently than do students with no vocational credits (and usually more frequently than Incidental/Personal participants). It also suggests that among high school seniors about 40 percent of males and 30 percent of females earn more than $2,500.

These data suggest that the casual image of high school students working a few hours each week for pocket change is outdated. Almost three-fifths of seniors work, vocational concentrators work more often than other students, and at least half of those students who work earn enough to make a substantial contribution to their own or their family's economic situation by earning more than $2,500 during their senior year.

Summary

An interesting picture emerges of the types of jobs that high school students hold. Most jobs (over 80 percent) are held outside of the auspices of the schools. Students who concentrate in vocational education are more likely than other students to hold school supervised jobs.

The majority of jobs held by students require relatively little skill or are concentrated in a few occupational and industrial categories. Half of all men's jobs are in the laborer and service occupations, and more than two-thirds of all women's jobs are in clerical or service occupations. Threefourths of the jobs are classified at the two lowest content levels. But school supervised jobs and jobs held by vocational concentrators tend to be found more often at intermediate content levels, usually in the relatively more demanding clerical jobs for women and in craft or operative jobs for men.

The predominate patterns of adult employment by sex and occupation are reflected also in the employment of high school students. Women are more likely to be in clerical, sales, or household service occupations, and men are more likely to work at manual or farm occupations (as craftworkers, operatives, laborers, or farm workers).

While school supervision appears to raise the skill level of jobs held by high school students, it has rather different effects for men and women on the types of work performed. School supervision places men in jobs that involve the same type of work that other high school men find. But women who work under school supervision work much more frequently in clerical jobs and much less frequently in sales or service jobs than do women who find jobs on their own.

The average regular job held by a high school student involves nearly half of a standard work week. Men work slightly more than women in a normal week, and for both sexes school-supervised jobs involve longer workweeks than nonsupervised jobs.

Most regular jobs held by high school students pay an amount close to the minimum wage and about one-fourth of the jobs pay substantially less than that amount. Probably the most striking result in all of the tabulations in this report concerns the mean hourly rate of pay: the mean rates of pay for men in school-supervised and non-school-supervised jobs and for women in school-supervised jobs are identical, $3.15 per hour. Women in non-school-supervised jobs earn about $.27 per hour less than that (about $.50 per hour less if household service jobs are included). It would appear that school supervision eliminates the earnings difference that arises either from sex-role stereotyping in occupations or from more blatant forms of discrimination in hiring. And it eliminates that difference without reducing earnings below the levels that are available in outside jobs.

Finally, these data suggest that students work to earn more than small amounts of income. The best estimate available from these data is that nearly 40 percent of graduating men and nearly 30 percent of women earn more than $2,500 from jobs held during their senior year.

CHAPTER 4

HIGH SCHOOL ACHIEVEMENT AND POST-HIGH SCHOOL LABOR MARKET OUTCOMES

This chapter considers the relationship between high school work experience and two classes of subsequent outcomes--high school achievement (as shown by grades and class work) and post-high school labor market outcomes (as shown by earnings, hours worked, and unemployment). The NLS Youth sample through the 1980 interview allows an examination of post-high school labor market experience for only part of the sample and for only the first two years out of high school. As explained in previous chapters, absence of complete work histories prior to January 1978 makes impossible the identification of non-school-supervised jobs for earlier periods. Thus, the sample for all analyses in this chapter was restricted to those respondents who left high school between April 1978 and August 1979. The sample was further restricted to high school graduates in order to avoid the complications associated with comparing graduates and dropouts (see Mertens, Seitz, and Cox 1982). Only respondents who were not enrolled in school at the 1980 interview were considered in evaluating labor market outcomes, so that a relatively full-time commitment to the labor force was possible for most of the respondents. Thus, the analysis of post-high school labor market experience between May 1979 and May 1980 looks at respondents who were nineteen to twenty-one years of age in May 1980, who graduated from high school between April 1978 and August 1979, and who were not enrolled in school in May 1980.

Labor Market Outcomes

The hourly and weekly earnings and hours worked per week on the respondent's most recent job were analyzed, together with the fraction of each respondent's labor force time spent unemployed between approximately May 1979 and May 1980.* These outcomes were examined by applying linear regression analysis separately over each of four subsamples: white men and women and minority (black and Hispanic) men and women. This partitioning of the data and the restriction of the sample to nonenrolled respondents between nineteen and twenty-one years of age reduced substantially the fraction of variation in labor market outcomes that could be explained by the regressions, because most of the explainable variation in these outcomes is associated with differences in educational attainment, race, and sex.

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*The exact period for unemployment is the time between the 1979 and 1980 interviews, and that time varies slightly among respondents.

High school work experience is indicated here by the same measures as were used in previous chapters. In the first measure, respondents were classified as having worked only at school-supervised jobs ("school job only" in tables 4.1-4.6), only at non-school-supervised jobs ("outside job only"), at both types of jobs ("both"), or at no high school jobs (omitted category). In the regression analyses the reference group for this measure was those respondents who had not held any high school job. Respondents were also categorized as having worked or not having worked at a school-supervised job ("school job") and as having worked or not having worked at any high school job ("any work"). Those measures were used in separate regressions. Respondents were classified in a fourth measure as having received high school credits in any of several areas of cooperative education or in a work-study job. In this sample only a few respondents received credit in most of the cooperative education areas. Only work-study and co-op T and I (for men) or office (for women) had enough respondents to warrant their identification as groups in the analysis. All of these classification indicators were represented by binary variables in the regression analyses.

Three continuous measures of high school work experience also were used in two alternative regression models: the number of job-months* of experience in school-supervised high school jobs ("school job experience"), the number of job-months in non-school supervised jobs ("outside job experience"), and the sum of those two variables ("high school experience"). These measures allow one to test hypotheses regarding the length of work experience and hypotheses that distinguish between supervised and nonsupervised work experience.

Because the rationale for the basic model that is used has been discussed at length elsewhere (see Campbell, Orth, and Seitz 1981 or Gardner, Campbell, and Seitz 1982), it is not repeated here. Let it suffice to say that the outcomes are estimated with a simplified specification. That specification includes only personal characteristics (such as socioeconomic origins, region of residence, and years of educational attainment), a measure of high school academic performance (percentile class rank), and indicators of high school vocational training or high school work experience (the patterns of participation in vocational education, vocational specialty areas, and the work experience measures described in the preceding paragraph).

Hypotheses to Be Tested

The hypotheses that can be tested here are expressed most easily in terms of the point estimates of the coefficients of the regression models. The models hypothesize that the individual's labor market outcomes (Y_i) are linear functions of a vector of that individual's personal characteristics (C_i), a vector of patterns of participation in high school vocational education (P_i), and an indicator of work experience acquired during high school. The work experience component is identified in the several ways previously described. The measures are represented by the following symbols:

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*A job-month is one month spent at one job.

(1) $N^*_i = 1$ if the respondent has held only nonschool-supervised jobs during school;
$= 0$ otherwise;

$S^*_i = 1$ if the respondent has held only school supervised jobs during high school;
$= 0$ otherwise;

$B^*_i = 1$ if the respondent has held at least one supervised job and at least one nonsupervised job during high school;
$= 0$ otherwise.

Students with no high school work experience are the reference group.

(2) $S\#_i = 1$ if $N^*_i = 1$ or $S^*_i = 1$;
$= 0$ otherwise.

Students who never held a school-supervised job are the reference group.

(3) $W^*_i = 1$ if $N^*_i = 1$ or $S^*_i = 1$ or $B^*_i = 1$;
$= 0$ otherwise.

The reference group is the same as for (1).

(4) $TI_i = 1$ if the transcript showed no work-study credits and the specialty area with the largest number of cooperative education credits was trade and industry;
$= 0$ otherwise.

$WS_i = 1$ if the transcript showed work-study credits but no cooperative education credits;
$= 0$ otherwise.

Z_i stands for a vector of dummy variables similar to TI_i for other specialty areas (agriculture, distributive education, health, home economics, and a composite category for students with both co-op education and work-study credits). Estimates are not shown separately for these because virtually none of the coefficients is statistically significant and (except for women with an office specialty) no area had enough respondents with credits to warrant confidence in the point estimates.

The reference group is students with no cooperative education or work-study credits.

(5) $T_i = N_i + S_i$.

(6) N_i = job-months of experience in non-school-supervised jobs during high school;

S_i = job-months of experience in school-supervised jobs during high school.

For each outcome measure, six variants of the basic model were estimated:

(1) $Y_i = a+bC_i+cP_i+dN^*_i+eS^*_i+fB^*_i+u_i$

(2) $Y_i = a+bC_i+cP_i+e'S\#_i+u_i$

(3) $Y_i = a+bC_i+cP_i+d'W^*_i+u_i$

(4) $Y_i = a+bC_i+cP_i+e_tTI_i+e_wWS_i+e_zZ_i+u_i$

(5) $Y_i = a+bC_i+cP_i+e''T_i+u_i$

(6) $Y_i = a+bC_i+cP_i+d''N_i+e''S_i+u_i$

Model 1 allows supervised and nonsupervised work experience to have different impacts, but it assumes that the impacts depend only on the type of experience and not on its duration. Model 2 constrains nonsupervised work experience to have no effect (compared to zero work experience) and assumes that the effect of supervised work experience does not depend on its duration. Model 3 constrains both types of work experience to have equal effects and assumes no effect of duration. Model 4 treats only cooperative education or work-study credits and assumes that any effect does not depend on the number of such credits. Model 5 constrains the effects of an additional job-month of supervised or nonsupervised work experience to be the same, but it allows the total effect to vary linearly with the total of both types of work experience. Model 6 allows supervised and nonsupervised work experience to have different impacts and allows the total effect of each type of work experience to vary (linearly) with its amount.

The hypotheses that might be tested with these models can be illustrated with a few examples. The hypothesis that, given C_i and P_i, having had supervised work experience increases hourly earnings on post-high school work is equivalent to the hypothesis that e is significantly positive in the hourly earnings equation. The hypothesis that having had high school work experience of any kind increases weekly earnings implies that d' is significantly positive for that outcome. An assertion that having had supervised work experience increases hours worked more than nonsupervised work experience implies that e is significantly greater than d for that outcome. The closely related but distinct hypothesis that an additional month of supervised work experience increases hours worked more than an additional month of nonsupervised work experience is equivalent to hypothesizing that $e'' > d''$. Tables 4.1 to 4.6 show the estimates of the coefficients of the work experience variables.

Hourly and Weekly Earnings

Hourly and weekly earnings were estimated in logarithmic form, and differences are shown as percentages of earnings for those students who held at least one job at some time between May 1979 and May 1980. For those who held more than one job in that period, the estimates are derived from the most recent job. The differentials can be expressed in dollars by noting the mean earnings shown in the table. The estimates suggest that having had high school work experience of various kinds is associated (but not significantly) with lower hourly (table 4.1) and weekly (table 4.2) earnings for white males. An additional month of total or nonsupervised work experience is significantly associated with lower earnings of about 3 percent. For a student who worked twenty hours per week for the full school year, that difference is approximately $80. An additional month of supervised work experience is associated with higher earnings, but the estimates are not precise enough for one to conclude that they are significantly different from zero.

For minority males, having had work experience in nonsupervised jobs is associated (significantly) with higher hourly earnings and (not significantly) with higher weekly earnings. Previous participation in only school-supervised jobs is associated with higher hourly earnings, but the estimates are imprecise. Students who have held both types of jobs have substantially lower post-high school earnings than students who have not worked while in high school. Additional months of experience in either type of high school job are not significantly associated with differences in earnings, though the estimates suggest that additional months of non-school-supervised jobs are associated with higher earnings and additional months of school-supervised experience are associated with lower earnings.

For white females the acquisition of any kind of work experience is associated with higher hourly or weekly earnings (sometimes significantly) of between about 3 and 25 percent. But those women who worked the most while in high school experience

TABLE 4.1

ESTIMATED PERCENTAGE DIFFERENCES IN HOURLY EARNINGS ON POST-HIGH SCHOOL JOBS BY STUDENTS' WORK EXPERIENCE (RESPONDENTS NOT ENROLLED IN POSTSECONDARY EDUCATION)

Alternative Measures of Experience in High School	White Men	Minority Men	White Women	Minority Women
1. School Job Only (e)	-6	+1	+8	-5
Both (f)	-15	-21**	+17*	+11
Outside Job Only (d)	-9	+13**	+13	+8
2. School Job (e')	-3	-17**	+2	-4
3. Any Work (d')	-9	+6	+13**	+5
4. Whether Co-op Ed. - T and I Credits (e_t)	-4	+4	--	--
Whether Work-Study Credits (e_w)	-9	-5	+9	-1
5. An Additional 10 Job-Months of:				
High School Experience (10 x e''')	-3**	-1	-1**	+3
6. An Additional 10 Job-Months of:				
High School Experience (10 x d'')	-3**	+3	-1	+7
School Job Experience (10 x e'')	+3	-8	-1**	-1
Mean Hourly Earnings	$4.32	$4.04	$3.34	$3.44
(n)	(319)	(194)	(340)	(182)

NOTE: *Significantly different from zero at the .10 level.
**Significantly different from zero at the .05 level.
--Less than .5 percent.

Each numbered set of categories was estimated in a separate equation that controlled for SES, years of educational attainment, region of residence, high school class rank, patterns of participation in secondary vocational education, and vocational specialty (if any) in high school.

TABLE 4.2

ESTIMATED PERCENTAGE DIFFERENCES IN WEEKLY EARNINGS
ON POST-HIGH SCHOOL JOBS
BY STUDENTS' WORK EXPERIENCE
(RESPONDENTS NOT ENROLLED IN POSTSECONDARY EDUCATION)

Alternative Measures of Experience in High School	White Men	Minority Men	White Women	Minority Women
1. School Job Only (e)	--	+10	+3	-6
Both (f)	-12	-26	+25	--
Outside Job Only (d)	-2	+12	+20	-1
2. School Job (e')	-3	-15	-3	-4
3. Any Work (d')	-3	+5	+17*	-2
4. Whether Co-op Ed. - T and I Credits (e_t)	+7	--	--	--
Whether Work-Study Credits (e_w)	-4	-2	+22	+4
5. An Additional 10 Job-Months of:				
High School Experience (10 x e''')	-3**	-1	+2**	+4
6. An Additional 10 Job-Months of:				
Outside Job Experience (10 x d")	-4**	+1	+2	+7
School Job Experience (10 x e")	+5	-5	+2**	+1
Mean Weekly Earnings	$168	$151	$109	$113
(n)	(319)	(193)	(339)	(182)

NOTE: *Significantly different from zero at the .10 level.
**Significantly different from zero at the .05 level.
--Less than .5 percent.
Each numbered set of categories was estimated in a separate equation that controlled for SES, years of educational attainment, region of residence, high school class rank, patterns of participation in secondary vocational education, and vocational specialty (if any) in high school.

marginally lower hourly earnings in post-high school jobs. And experience in non-school-supervised jobs is associated with even higher earnings than is experience in school-supervised jobs (a 13 percent differential compared to an 8 percent differential). For minority women, the point estimates in all of the specifications lack precision, although there is some tendency for higher hourly earnings among those who worked at nonsupervised jobs. Unlike men, the largest positive differentials occur for women who hold both school-supervised and non-school-supervised jobs.

These results suggest that either high school work experience has very different subsequent short-term effects on earnings for white males than for other students or a rather different process operates for white males to determine who among them works while in high school. White males with any previous high school work experience tend to earn less than other white males on jobs held immediately after high school. Among minority males and white females, high school work experience is associated with higher earnings, but any advantage seems to arise more often from nonsupervised than from supervised work experience. These data do not provide strong support for the hypothesis that school-supervised work experience improves short-term post-high school earnings among students who do not go on to higher education.

Unemployment

The measure of unemployment used in table 4.3 is the time spent unemployed expressed as a fraction of the time spent in the labor force during the year preceding the 1980 interview (usually May 1979 to May 1980). This measure adjusts for differences in labor force participation rates among respondents.*

The estimates here offer strong evidence both that respondents who acquire some high school work experience spend relatively less time unemployed in the first year or two after leaving high school and that, the greater the amount of work experience accumulated, the lower is the fraction of time spent unemployed. The acquisition of work experience reduces time unemployed for white men by between 7 and 12 percentage points. The estimated differentials are as large for white females and even larger for minority students. The relatively greater favorable impact of nonsupervised than of supervised work experience emerges in this analysis, as it did for earnings for minority males and white females. Nonsupervised work experience seems to be more powerful

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*Because the measure is constrained to lie between 0 and 1 and because there are likely to be clusters of observations at the extremes, a Tobit approach to estimation is more appropriate here than is the ordinary least squares approach. Time constraints of the contract prevented using that approach.

TABLE 4.3

DIFFERENCES IN FRACTION OF LABOR FORCE TIME UNEMPLOYED
IN THE FIRST TWO YEARS FOLLOWING HIGH SCHOOL
BY STUDENTS' WORK EXPERIENCE
(RESPONDENTS NOT ENROLLED IN POSTSECONDARY EDUCATION)

PERCENTAGE POINTS

Alternative Measures of Experience in High School	White Men	Minority Men	White Women	Minority Women
1. School Job Only (e)	-7.2*	-10.7	-8.5**	-16.0**
Both (f)	-11.8**	-16.9*	-10.3**	-21.6**
Outside Job Only (d)	-11.0**	-15.6**	-10.8**	-16.1**
2. School Job (e')	-.9	-5.1	-1.9	-10.4*
3. Any Work (d')	-10.7**	-14.8**	-10.5**	-16.7**
4. Whether Co-op Ed. - T and I Credits (e_t)	-3.0	-15.6	-7.1	-5.1
Whether Work-Study Credits (e_w)	3.3	-3.3	-2.7	-12.5**
5. An Additional 10 Job-Months of:				
High School Experience (10 x e''')	-1.9**	-5.2**	-2.3**	-7.6**
6. An Additional 10 Job-Months of:				
Outside Job Experience (10 x d")	-1.8**	-5.7**	-2.3**	-8.0**
School Job Experience (10 x e")	-3.4*	-3.3	-3.2	-7.2**
Mean Fraction of Unemployed Labor Time in Sample	9.3	19.1	10.1	23.7
(n)	(367)	(190)	(456)	(239)

NOTE: *Significantly different from zero at the .10 level.
**Significantly different from zero at the .05 level.
Each numbered set of categories was estimated in a separate equation that controlled for SES, years of educational attainment, region of residence, high school class rank, patterns of participation in secondary vocational education, and vocational specialty (if any) in high school.

than supervised work experience in reducing unemployment. One should note, however, that the differentials in time unemployed associated with supervised and nonsupervised work experience are not significantly different from each other. These results suggest that the earnings differentials for supervised and nonsupervised jobs may well be the result of the self-selection process that determines who works while in high school rather than of changes produced by the experience itself.

Hours Worked Per Week

The relative magnitude and direction of differences among respondents in hours worked per week on the most recent job are reported in table 4.4. Longer workweeks and statistically significant differences in workweeks were found for white men but were not found consistently for the other subgroups. School-supervised work experience is associated with anywhere from two to five more hours per week. Nonsupervised work experience is associated with shorter hours per week for minority respondents. And the greater the nonsupervised work experience, the lower are the hours worked per week by minority respondents.

Summary

These estimates suggest that among those people who do not continue their education immediately after high school, work experience acquired while in high school is associated with outcomes that differ by race and sex of respondent. Work experience does not seem to raise (and may actually lower) immediate posthigh school earnings for white males. In contast, the acquisition of work experience is associated with higher earnings for females and for minority males. But school supervision does not seem to be responsible for any earnings gains from work experience acquired while in high school. For minority males and females, the higher earnings are associated only with non-school-supervised work experience. Even for white females, non-school-supervised work experience is associated with a larger advantage than for school-supervised work experience.

Work experience acquired while in high school does, however, have a strong association with substantially lower rates of labor force time spent unemployed. Although a causal relationship cannot be established with these data, both the acquisition of experience and longer periods of experience are associated with less time spent unemployed. Unlike the earnings data, these associations hold true for both school-supervised and non-school-supervised work experience. As with the earnings data, however, non-school-supervised experience is associated with even larger improvements than in school-supervised experience.

TABLE 4.4

DIFFERENCES IN HOURS PER WEEK
ON POST-HIGH SCHOOL JOBS
BY STUDENTS' WORK EXPERIENCE
(RESPONDENTS NOT ENROLLED IN POSTSECONDARY EDUCATION)

Alternative Measures of Experience in High School	White Men	Minority Men	White Women	Minority Women
1. School Job Only (e)	+3.4	+4.8*	-.2	+.2
Both (f)	+2.6	-2.0	+1.0	-3.1
Outside Job Only (d)	+3.0*	-1.4	+1.2	-1.7
2. School Job (e')	+.8	+2.3	-.6	-.2
3. Any Work (d')	+3.0**	-.4	.9	-1.4
4. Whether Co-op Ed. - T and I Credits (e_t)	-.6	+3.1	--	--
Whether Work-Study Credits (e_w)	+.7	-.1	+2.5	+1.8
5. An Additional 10 Job-Months of:				
High School Experience (10x e''')	+.1	+.7	-.1	+.4
6. An Additional 10 Job-Months of:				
Outside Job Experience (10 x d")	--	-.4	+.4	-.5
School Job Experience (10 x e")	+.3	+3.1*	-.1	+.2
(n)	(335)	(211)	(378)	(206)

NOTE: *Significantly different from zero at the .10 level.
**Significantly different from zero at the .05 level.
--Less than .5 hours.
Each numbered set of categories was estimated in a separate equation that controlled for SES, years of educational attainment, region of residence, high school class rank, patterns of participation in secondary vocational education, and vocational specialty (if any) in high school.

High School Achievement

The analysis of high school achievement (grade average and rank in class) was made for a different sample than was used for the labor market outcomes. As with labor market outcomes, only respondents who left high school* (graduated or dropped out) between April 1973 and August 1979 were included. Unlike the labor market analysis, no restrictions were placed on their enrollment in postsecondary institutions as of the 1980 interview. However, because the grade and rank measures were drawn from their transcripts, only respondents with transcripts were included. Transcripts were available in sufficient detail to compute grades and class rank for about two-thirds of the respondents who left high school within the specified time period.

The regression models employed in this section differed slightly from those for labor market effects. First, the sample was partitioned by sex but not by race, and dummy variables were used to allow separate intercepts for whites, blacks, and Hispanics. Second, the vector of personal characteristics, C, included only the socioeconomic status scale and an indicator of whether the respondent had a child before leaving high school. The simple cross-tabulations reported in chapter 2 suggested that these were the personal characteristics across which grades and class rank varied substantially.

Because grade and rank are truncated variables, a Tobit approach would normally be preferred to ordinary least squares regression. But few cases clustered at the limits, and the likely gain in accuracy from the Tobit approach seemed small.**

Grade Average

For men the estimated effects of working are negligible (table 4.5). None of the estimated coefficients is statistically significant or would be practically significant even if the precision of the estimates were greatly improved. The grade measure is systematically positively related to the student's socioeconomic status, grades are significantly lower for blacks than for whites, and students who have children before they leave high school have significantly lower grades than students who do not have children. Those relationships for variables other than work

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*Any nongraduates who left in this period but later returned before the 1980 interview are excluded.

**Time constraints also prevented the authors from treating in an appropriate manner the sample-censoring problems that arose because grade and rank were available only for respondents with transcripts (see Heckman 1976).

TABLE 4.5

DIFFERENCES IN HIGH SCHOOL GRADE AVERAGE BY STUDENTS' WORK EXPERIENCE FOUR-POINT SCALE

Categories of Work Experience In High School	Men	Women
1. School Job Only (e)	0.05	-.11*
Both (f)	-0.00	-.12
Outside Job Only (f)	0.02	-.03
2. School Job	0.01	-.10**
3. Any Work (d')	0.02	-.06
4. Whether Co-op Ed. - T & I Credits (e_t)	Not Estimated	
Whether Work-Study Credits (e_w)		
5. An Additional 10 Job-Months of:		
High School Experience (10 x e''')	0.01	-.01
6. An Additional 10 Job-Months of:		
Outside Job Experience (10 x d'')	0.01	-.03
School Job Experience (10 x e'')	0.00	-.01
(n)	(725)	(889)

NOTE: *Significantly different from zero at the .10 level.
**Significantly different from zero at the .05 level.
--Less than .5 hours.
Each numbered set of categories was estimated in a separate equation that controlled for SES, patterns of participation in secondary vocational education, and vocational specialty (if any) in high school.

experience hold also for the women's data, with estimated coefficients that are quite similar to those for men. Thus, the lack of relationship between men's grade average and high school work experience cannot be explained as the result of the outcome measure having no systematic pattern of variation. Rather, the estimates suggest that, for men, there is little or no connection between work experience in high school and grade average.

For women, however, a clearer pattern emerges. Having had work experience is associated with lower grades. The difference in grade average is small, about .1 on a four-point scale, but it is statistically significant where school-supervised jobs are involved. These data do not establish that working lowers grades or even that working at school-supervised jobs lowers grades: grades before and after the acquisition of work experience are not available. In fact, it is likely that schools select those students who have low grades to be candidates for school-supervised jobs. But the results do show that a significant relationship for women remains after controlling for race, socioeconomic status, and the presence of a child.

Percentile Class Rank

Percentile class rank is usually a better comparative measure of academic achievement than is grade average. Although rank is usually based on grade average, rank is usually a better basis for comparing students who come from different schools.

The estimates for percentile class rank show more systematic variation than those for grade point average. As with grade point average data, none of the estimated differences attributable to work experience patterns are significant for men, and statistically significant differences emerge for women where school-supervised jobs are involved (table 4.6). Also as with the grade average data, women who work at school-supervised jobs score lower on the outcome measure.

In contrast with the grade average data, however, the point estimates of differences in class rank for men are of the same order of magnitude as those for women. The class rank outcome also differs from the grade average measure in that, for women, the amount of work experience shows a statistically significant relationship to class rank. Moreover, longer work experience in non-school-supervised jobs is associated with higher class rank for women. In practical terms, the magnitude of the association is small: an additional ten months of work experience is associated with a difference of less than two percentiles.

TABLE 4.6

DIFFERENCES IN HIGH SCHOOL RANK IN CLASS BY STUDENTS' WORK EXPERIENCE

PERCENTILES

Categories of Work Experience in High School	Men	Women
1. School Job Only (e)	4.50	3.64
Both (f)	-.63	4.46
Outside Job Only (d)	3.10	1.36
2. School Job (e')	.59	4.72*
3. Any Work (d')	2.97	.30
4. Whether Co-op Ed. - T & I Credits (e_t)	Not Estimated	
Whether Work-Study Credits (e_w)		
5. An Additional 10 Job-Months of:		
High School Experience (10 x e''')	.52	1.62**
6. An Additional 10 Job-Months of:		
Outside Job Experience (10 x d'')	.62	1.64*
School Job Experience (10 x e'')	-1.11	1.48
(n)	(659)	(840)

NOTE: *Significantly different from zero at the .10 level.
**Significantly different from zero at the .05 level.
--Less than .5 hours.
Each numbered set of categories was estimated in a separate equation that controlled for SES, patterns of participation in secondary vocational education, and vocational specialty (if any) in high school.

Summary

These data do not show that working while in high school has an important effect on grade average or rank in class. But they do suggest, at the very least, that students who work while in high school are somewhat different from those who do not work. For women, there is also a difference between those who work at school-supervised jobs and those who work at nonsupervised jobs.

CHAPTER 5

SUMMARY AND IMPLICATIONS

The evidence presented in this report suggests that working while in high school influences a number of educational and labor market outcomes. It also indicates that school-related jobs differ on several dimensions from jobs students obtain on their own. As in so many studies of this type, whether these effects are judged to be beneficial or detrimental to young people depends on value judgments.

The basic judgment in this case involves how young people sixteen and seventeen years of age should best spend their time. Few would argue that at this age education objectives should be paramount. The disagreement arises over the objectives to be stressed and whether they can be better achieved in a classroom or in a work setting. Advocates of experiential education claim that community involvement brings increased relevance to educational activities and eases the transition from school to work, from the role of adolescent student to that of adult worker. Those who are skeptical of this approach question whether work experience actually has these effects. They stress the importance of communication and computational skills in all adult activities, and think the time students spend in school should assure mastery of these. The evidence from this study provides some support for both sides of this argument.

Effects of Work Experience

The results of this study are based on a selected subsample of the participants in the new NLS Youth cohort. It is limited to 2857 young people who left school between April 1978 and August 1979. This is the subsample for which the most precise information on working while in high school is available. Even within this group, however, there is substantial disagreement between the participants' reports of employment in school-related jobs and information from their high school transcripts on credits received for cooperative education or work-study programs. Because of the limited number of respondents who received such credits, most analyses are based on information provided by the participants.

The information from this subsample indicates that about two out of every three high school students hold regular part-time jobs. Relatively few of these jobs (11 percent for males, 16 percent for females) are supervised by the schools. Young men are a little more likely to work than women, and whites are much more likely to work than blacks (about 20 percentage points) and

Hispanics (11 percentage points). Students who take more vocational courses are also more likely to work and to do so in school-supervised jobs. This is especially true of young women who concentrate in business and office courses and young men who concentrate in trade and industry courses. On the average, students who hold jobs work about twenty hours per week in jobs that pay $67 per week.* The jobs held by men are about two to three hours longer and pay $15 more per week than those held by females.

Educational Effects

What influence does holding a job have on the high school grades received by this sample? Two measures of grades were analyzed--grade point average (GPA) and class rank converted to a percentile score--and these both yielded mixed results. Some groupings based on gender and work experience are associated with higher grades and some with lower. Regression analysis of the grade measures also yielded conflicting results. When such factors as sex, race, family SES, and patterns of participation in vocational courses are held constant, work experience does not appear to influence the grades received by men. For women significant relationships were found but they differed for the two grade measures: work experience has a significant negative relationship with GPA, but a significant positive relationship with class rank. Of the two measures class rank is probably the better measure of relative performance since it is less sensitive to grading practices across schools and to skewness in the distribution of grades. These findings suggest that work experience has either no effect or a slightly positive effect on grades.

A comparison of school completion rates across the work experience groups suggested that holding a job is associated with high school graduation. Further examination, however, indicates that this apparent association is due to the way the work experience groups were defined. Most work experience is acquired in the junior and senior years, and most school withdrawal also occurs during these years. Consequently many dropouts were categorized as having had no jobs during high school because they had withdrawn from school. The interaction of school withdrawal and the ways work experience was defined prevents the drawing of any conclusion regarding the association between work experience and school completion.

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* Adjusted to a 1979 base.

Holding a job while in school does have a consistent association with reports of school problems or delinquent behavior. This was found for both juniors and seniors, males and females. The work experience group that reported the highest incidence of problems and deliquent behavior consisted of those students who held both school-related jobs and jobs they had obtained themselves. There is no apparent explanation for why this group should have been so much more prone to engage in such acts.

Labor Market Effects

In one sense, any earnings that students receive from jobs held while in school represent a benefit that their nonworking counterparts do not receive. Usually, however, estimates of labor market outcomes are limited to the post-high school period and are further limited to individuals who are employed or actively seeking employment. The present analysis followed the usual procedure and also eliminated individuals who were enrolled in school at the time of the interview. When these restrictions, plus controls for sex, race, SES, and patterns of participation in vocational courses were applied, *work experience was found to have few significant effects on hourly or weekly earnings*. In fact, the significant coefficients were negative, indicating that work experience is associated with lower earnings. *Work experience, however, was found to have a significant positive effect on employment during the first one or two years after high school*.

Does less unemployment mean that work experience in high school eases the transition from school to work? Or does the failure to find more pronounced earnings differences mean that work experience has marginal effect on subsequent employment? However interpreted, it is clear that the effects of work experience are complex. Work experience appears to have little effect on high school grades but may increase exposure to potentially troublesome behavior, such as cutting class or shoplifting. It also seems likely that work experience may reduce unemployment but has little effect on hourly or weekly earnings.

Effects of School Supervision

To this point the discussion has focused on the effects of work experience alone. One of the major objectives of the present study was to determine whether work experience in jobs that students obtain under school supervision differs in any systematic ways from experience in jobs students obtain on their own. The answer is that it does. School-related jobs are much more likely to be with a government agency, a little more likely to involve higher skill levels, and for women, much more likely to be clerical, less likely to be personal service, and to pay more.

In general, school supervision seems to act as an equalizing factor tending to overcome the difference usually associated with sex and minority status. For examples, blacks and Hispanics in general are employed less while in high school than whites. They are, however, more represented in school-supervised jobs than whites. The same is true of individuals classified in low and middle SES categories compared to high SES individuals. These differences are explained in part by the grouping of government jobs for the disadvantaged in the school-supervised category. About one-fourth of all school-supervised jobs are of this type.

The equal pay for males and females in supervised jobs is another example of the school tending to overcome traditional labor market differences. Studies of recent high school graduates almost always find that males earn more than females, and in this study there is such a difference between jobs students obtained on their own. In school-supervised jobs, however, the hourly pay males and females received is identical.

School-supervised jobs thus are different in several ways from jobs students obtained on their own. These differences were found for a category that included work-study, cooperative education, and government-sponsored jobs for disadvantaged individuals. A cooperative education placement, if properly done, should be quite different from a work-study or government-sponsored job. The cooperative job should be tied directly to skills studied in school. It should be at a higher skill level and facilitate on-the-job training. Evidence from the transcripts suggests that the cooperative credits were earned by students who had a more concentrated pattern of participation in vocational courses.

In the interview data, on which most of the analyses were based, it was not possible to separate work-study from cooperative education jobs. Consequently, the differences that were found probably represent a mixture of the effects of school supervision. If it had been possible to separate cooperative education from work-study, it is likely that the equity effects would have been more pronounced for work-study jobs, and the training effects more pronounced for cooperative jobs.

Policy Implications

If the preceding conclusions are accepted, what are the implications for government policy regarding work experience? Any consideration of policy should reflect the fact that most work experience takes place without any school or other type of government involvement. A majority of high school students find jobs on their own. Whatever benefits they realize or costs they incur are primarily in the private sector and are relatively inaccessible to intervention through public policy.

The present study suggests, for example, that holding a job while in high school increases the chances that a student will commit a delinquent act. A desirable policy objective may be to alter the job setting to reduce exposure to opportunities for delinquent acts. But how could this be brought about? The obvious regulations, such as prohibiting minors from serving alcoholic beverages, already exist, as does legislation on shoplifting, theft, and the use of marijuana. All of these are already illegal, yet many young people report they engage in such behavior. Further attempts to limit opportunities for such behavior in jobs that young people acquire on their own are likely to be neither politically nor operationally feasible.

The policy implications, therefore, are largely limited to school-supervised work experience. The evidence developed by this study suggests that school supervision does have some effects. On the basis of this evidence the following policy recommendations appear warranted:

1. Work-study programs should be continued and emphasized. These programs appear to be providing employment opportunities for those young people who have difficulty obtaining employment on their own. At a minimum, these programs provide additional income to many economically disadvantaged families. They appear to do so without adversely affecting school grades. Furthermore, being employed while in high school is likely to reduce the amount of time young people will spend unemployed following high school.

2. Cooperative vocational education programs should ensure placement in jobs related to training. Employment obtained through cooperative programs was found to be in somewhat different occupational categories and at higher skill levels than were jobs students obtained on their own. These characteristics of cooperative jobs suggest they have more potential for providing on-the-job training. This training potential should be stressed. Cooperative education coordinators should ensure that jobs provide training relevant to the skills studied in school.

The time of coordinators should not be spent just trying to find jobs for students; most students are able to find jobs on their own. Coordinators should seek only jobs that offer opportunities for training-related employment.

3. Schools should assist all students who hold jobs while in high school, whether through school programs or not, to use their work experience to enhance their education. Schools should maintain a work experience record to supplement the regular course credit transcript. This would list all regular employment held by students, the nature and hours of work, and whether there is school monitoring of the job. Schools should provide opportunities for individual and group counseling of problems encountered in work settings so students can learn different ways of dealing with such problems.

These recommendations are limited, but realistic in light of the findings of this study. A major effort to provide work experience is not needed because so many young people acquire it without any help from their schools. The schools' efforts should be directed at those areas where it appears they can have the most impact: helping those who have difficulty finding employment, ensuring opportunities for training, and enhancing naturally occurring work experience.

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